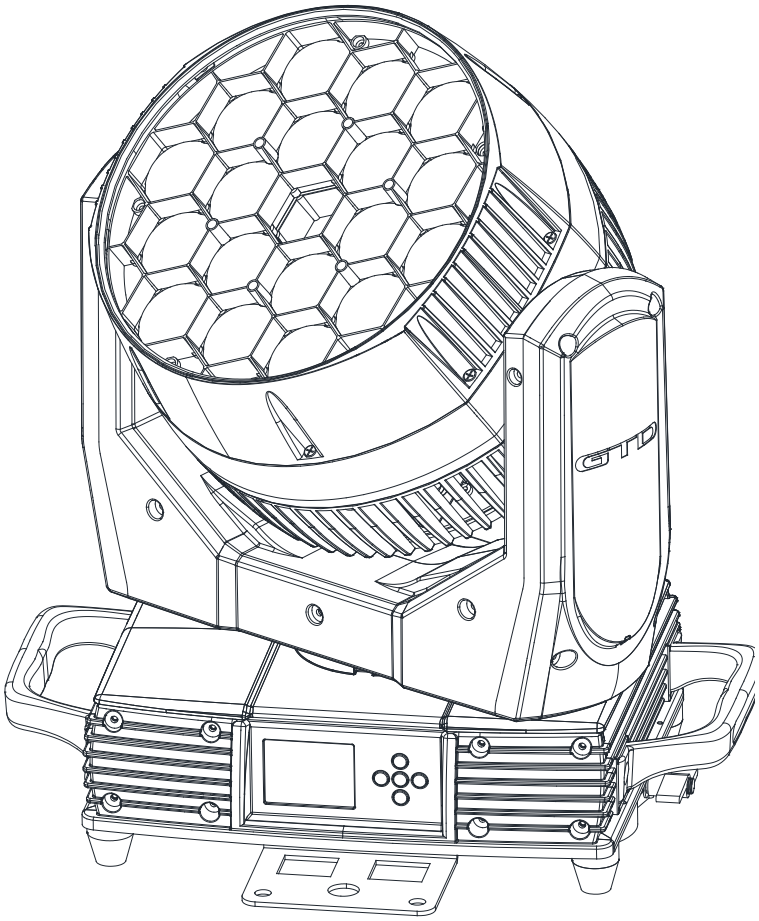


HYDOR WASH

User Manual

Contents

1. Safety instructions

Before using the fixture, read the latest version of the product user manual, paying particular attention to the safety instructions. Please check www.gtd-lighting.com for the latest revision/update of the user manual.

The manufacture of this fixture, are not responsible for damages, resulting from misuse of this fixture, due to the disregard of the information printed in this user manual.

DANGER!

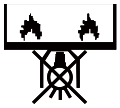
Hazardous voltage. Risk of lethal or severe electric shock

WARNING!

Wear protective eyewear. Never look directly into the light source.

WARNING!

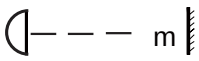
Burn hazard. Hot surface. Do not touch.



Only to direct mounting on non-combustible surfaces.

Indoors use only.

Replace all cracked glass shields.



Minimum distance to lighted objects.

ta. . . °C Maximum ambient temperature.

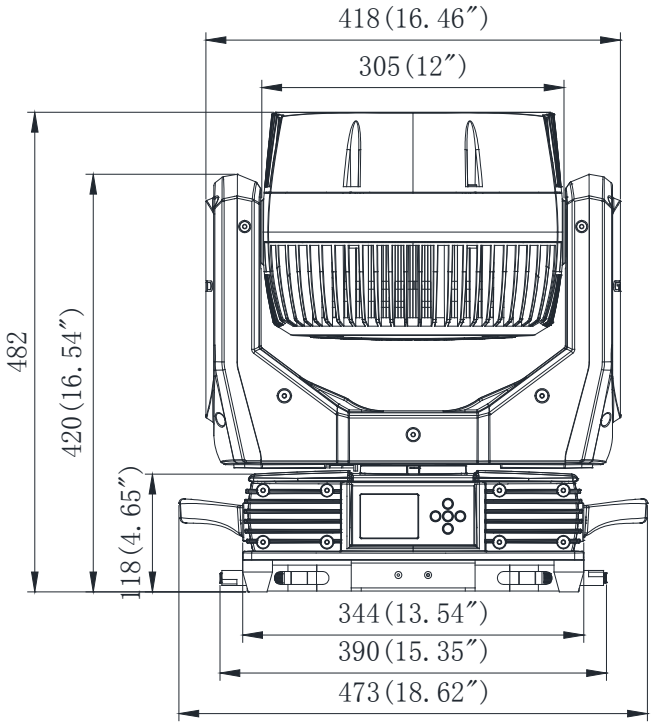
tc. . . °C Maximum temp of the external surface.

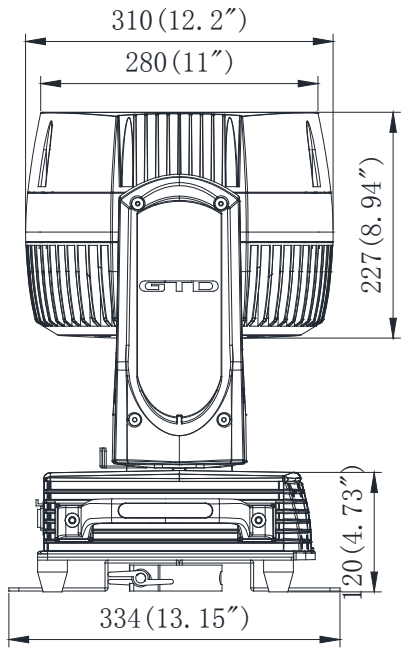
⚠ General guidelines

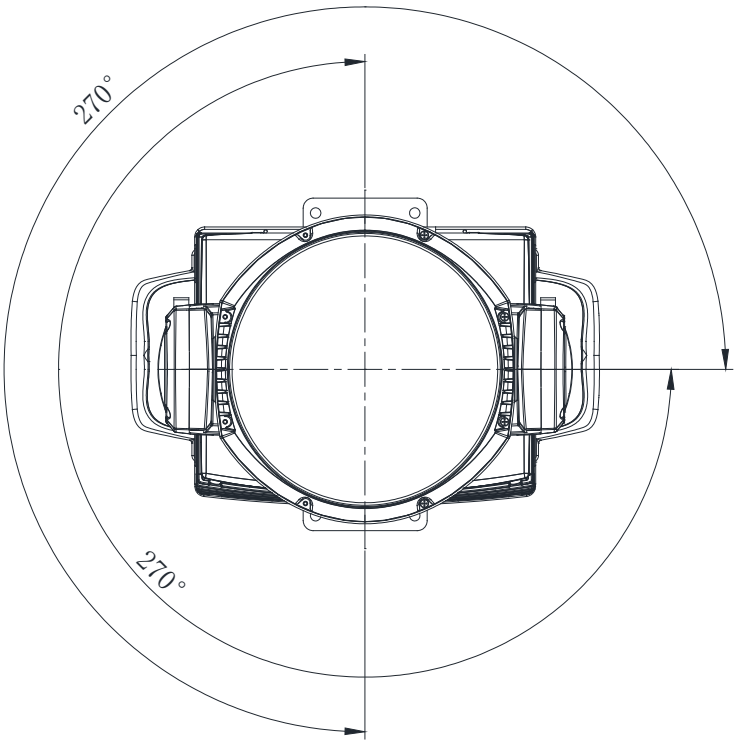
- The protection rating of this product IP66.
- Never open this fixture while it is in use.
- The fixture should be kept clean. DO NOT operate the fixture in extreme heat or dusty environments. Avoid contact with chemical liquid.
- Minimum distance to lighted objects must be 16.4 feet (5m).
- Maximum temp of the external surface 167 ˚F (70˚C).
- Maximum ambient temperature 113˚F (45˚C).
- Minimum distance of inflammable materials from the surface 3.28feet (1m).
- Lamp should be replaced if damaged or distorted in shape due to extreme heat.
- Cover, prism or LCD Menu Function Display with visible damages such as cracks or scratches must be replaced to ensure performance of the fixture.
- Disconnect the fixture from power before changing any parts or accessories.
- Basic insulation should be maintained between the controllable device and the product power supply.
- Make sure that the installation area can hold a minimum point load of 10 times the weight of all installed fixtures, clamps, cables, auxiliary equipment, etc. Make sure that the cover, clamps and locks are undamaged. Certified safety cables must always be used when installing the fixture.
- The fixture is only intended for installation, operation and maintenance by qualified professional. Instructions stated in the manual must be complied.
- The fixture must be kept in a well-ventilated place at least 50 cm away from any wall surface. Check if the fans or ventilation openings are unblocked.
- This fixture uses discharge lamp. Avoiding reduce the lamp’s life, wait at least 15 minutes after powering off to allow the unit to cool down before handling.
- To ensure operational safety, broken or damaged cables and light source can only be fixed or replaced by certified technicians, certified local distributors or the manufacturer.
- Do not stick filters or other materials onto the lens. Do not modify the fixture or install other than GTD manufactured parts.
- For questions regarding safety operation, please contact our technical personnel or call the service hotline +862061808296.

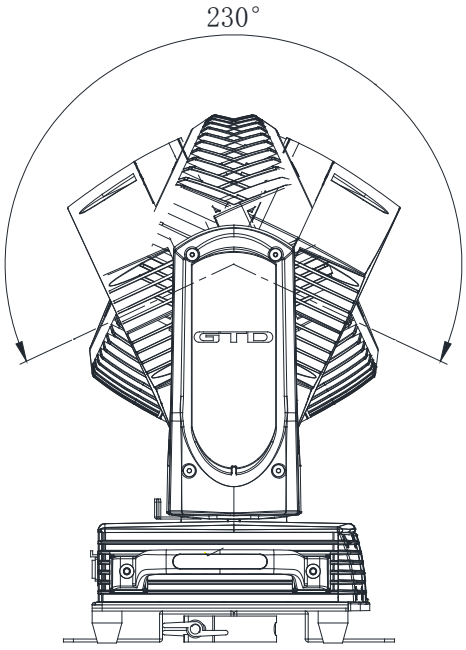
2. Production instructions

2.1 Dimensions

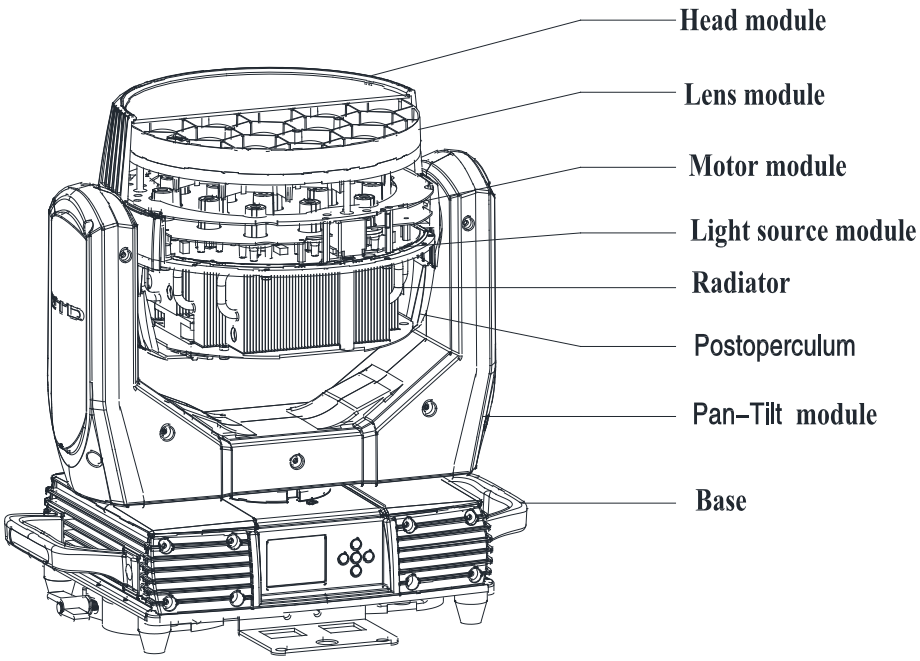








2.2 Fixture overview



2.3 Accessories

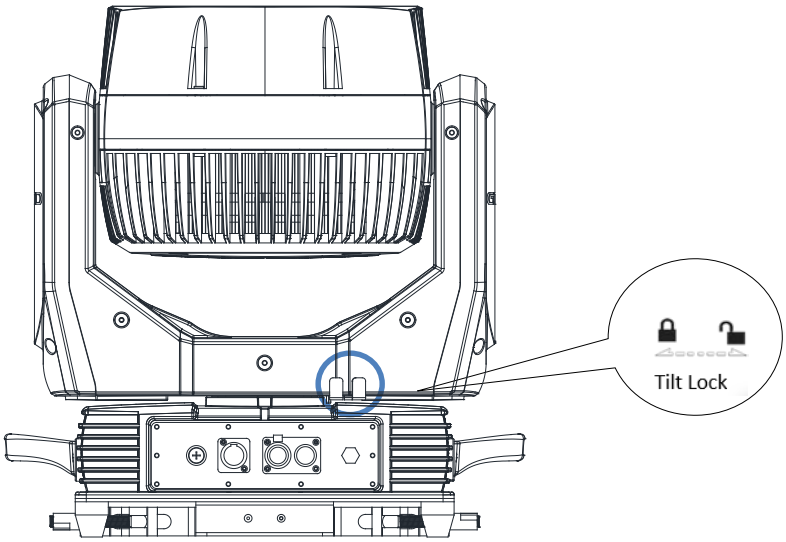
Item	Qty	Unit	Remark
User Manual	1	Pc	--
Clamps	2	Set	Hanging integrated folding lamp.
Safety cable	1	Pc	Φ5*60cm 7*19 pc with hook Material：Steel
Power line	1	Set	1.5m*2.5mm²

3. Packing and shipping

3.1 Protection lock

Pan and tilt locks are equipped to ensure safe transportation.

The horizontal axis has 2 locking points.



3.2 Unpacking

⚠ Notes

All products are quality controlled before they dispatched to customers. If the fixture is damaged during delivery, the customer must notify the shipper and manufacturer to file a damage insurance claim. Photographic evidence of the damage must be provided.

Flight–Case(specification: 1148*650*555mm)： Uncover the flight–case and remove the plastic packing bags. Hold the handles of the fixture firmly and take it out carefully.

Cardboard box(specification：590*510*635mm)： Open the box and take out the whole set of packaging foam which are contained both the fixture and its accessories. Remove the foam from the top, put away the accessories, and then take out the fixture wrapped in the plastic bag.

⚠ Notes

Check if the pan and tilt are locked before connecting the fixture to power.

3.3 Packing after use

1. Switch off the fixture and wait for at least 5 minutes before disconnecting it from AC power. Cool down the fixture for at least 15 minutes before packing.
2. Lock pan and tilt.
3. Flight case: Wrap the fixture in plastic bags. Gripping the handle and then place it in the flight case along with all the accessories carefully. Close the cover lid. The wrap page are not allowed over 3 layers. Do not upside down.
4. Cardboard box: Wrap the fixture in plastic bags. Put it in the packaging foam along with all the accessories. Place the other set of packaging foam on top then put it carefully in the cardboard box.

4. Installation

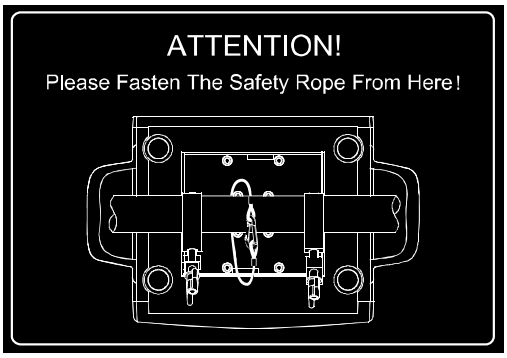
4.1 Clamps installation

The fixture can be placed on the stage or mounted on the truss which faces any direction. Attach the clamps to the mounting position on the base of the fixture.

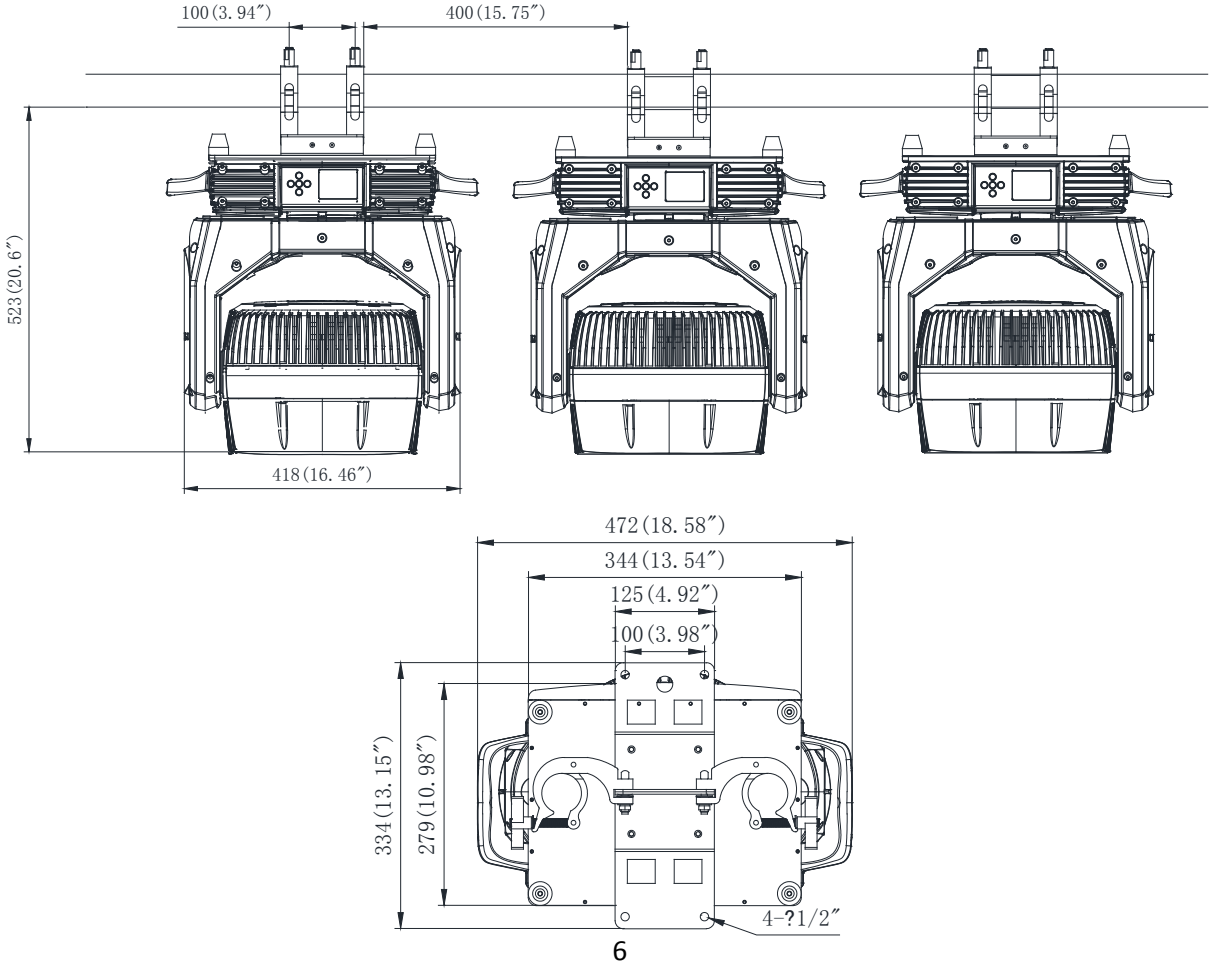
Warning： Use two clamps when mounting the fixture. Turn the screws attached to each clamp a 1/4 turn clockwise to lock. Always remember to use the safety cable which goes through the mounting hole on the base. Do not attach the safety cable on the handle.

4.2 Device installation

1. Make sure there is no damage on the clamps or safety cables before installation.



2. The clamp is mounted on the chassis of the fixture. Horizontally insert the clamp into the mounting holes of the chassis. Fasten the clamp tightly by a 1/4 turn clockwise. Fix another clamp in the same way.
3. Check if pan is locked before connecting the unit to AC power.



5. Power/ Control connection

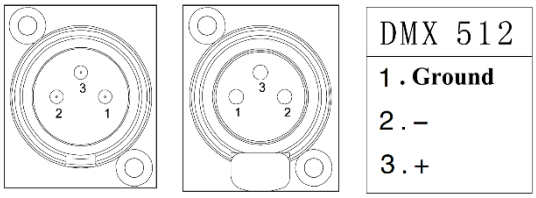
5.1 Power connection

Connection method:

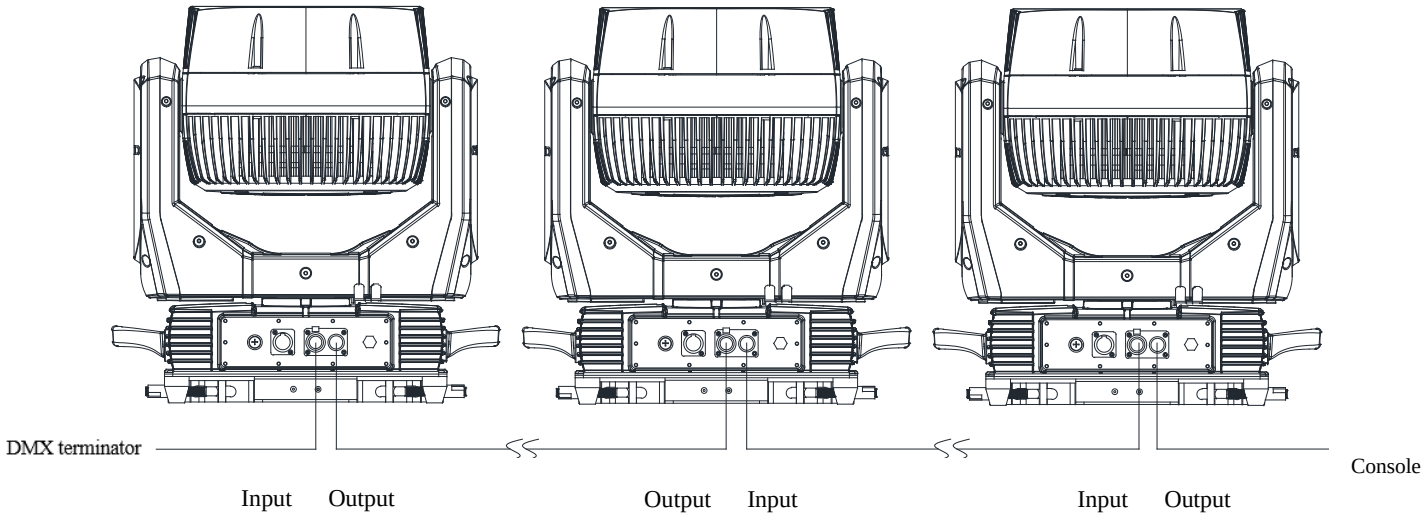
- L (Live) Brown wire
- E (Earth) Yellow / Green bi–color wire
- N (Neutral) Blue wire
- The voltage and frequency of the power source must be in compliance with the ones marked on the fixture. It is strongly recommended that each fixture are to be connected to the power source separately so that they can be switched on / off individually.

5.2 Control connection

The fixture has 3–pin XLR connectors for DMX data input and output as shown below. Connection between the console and fixture, and between fixtures must be made with 2 core screened DMX signal cable. Maximum connecting distance of signal cable is 150 meters. Additional DMX512 signal–amplifier is recommended for longer distance.



Connect the Console's DMX OUTPUT to the first fixture's DMX INPUT, then the first fixture's DMX OUTPUT to the second fixture's DMX INPUT and so on. It is recommended not to connect more than 32 units on a single DMX universe. On the last fixture's output connect a DMX terminator. (The terminator is a 3–pin XLR connector with a 1/2W and 120Ω resistor between the pin 2 and pin 3) as shown below:



5.3 Testing

Connect the fixture to AC power. Check if the lamp is on and the fixture is independently controllable before putting into operation.

6. Control panel

6.1 Panel instruction

- The control panel features touch-sensitive buttons and LCD digital display for quick and easy setup of address code and functions menu.
- Press UP or DOWN to view or select the function menu.
- Press CNTER to choose a function and enter into corresponding submenu. Each menu represents a specific function of the fixture.
- Press RIGHT to select the specific function and save the changes or enter into the submenu, then press UP or DOWN to change the value of the selected function (increase or decrease).
- Press RIGHT to return to the previous menu or exit.

7. Technical specification

- **Optical**

  Light source: OSRAM LE RTDUW S2WN

  Expected average lifetime: 20000 h

  Color temperature correction: 3200K~6500K

  Lumens: large angle：13000lm

  Zoom range：9.8° -48.8° (10%)/6.6° -33.6° （50%）Linear high speed zoom

  CRI：Ra≥70

  Focus: Any multi-point focus, 5 m to infinity tracking focus

  Color: R/G/B/W, color conversion and perfect mix-color effect

- **Electrical**

  Power input, nominal: AC 200-240V 50/60Hz

  Max. Power consumption: 997.2w

  Max current: 4.662A PF: ≧0.96

  Power supply unit: wide range electronic SMPS

  Main fuse: 250V / 15A

  Power input: power plug

  DMX data input/output: Chassis 3-pin

- **Control and programming**

  Control channels (DMX): 21/21/37

  Protocol: DMX-512 RDM

  Display: LCD

- **Physical / Installation**

  Weight: 50.70 lbs (23kg)

  IP rating: IP66

  Material: Aluminum, copper, steel, plastic, iron

  Mounting points: 4 fixed folding lamp（$^1/_2$ type） + attachment points for safety wire

- **Dynamic effects**

  Pan/Tilt movement: 540˚/230° ，adopting a function which resets 32bit accurately and automatically

  Strobe: 1-25Hz, strobe randomly, pulse randomly, strobe synchronously and asynchronously

  Dimmer: 0-100%, electronic linear dimming

- **Thermal**

  - Operating range: 5˚F to 113˚F (-15˚C to 45˚C)
  - Startup range: -12.9˚F to 113˚F (-25˚C to 45˚C)
  - Storage range: -39.9˚F to 140˚F (-40˚C to 60˚C)
  - Cooling: Active fan

- Humidity: ≤75%

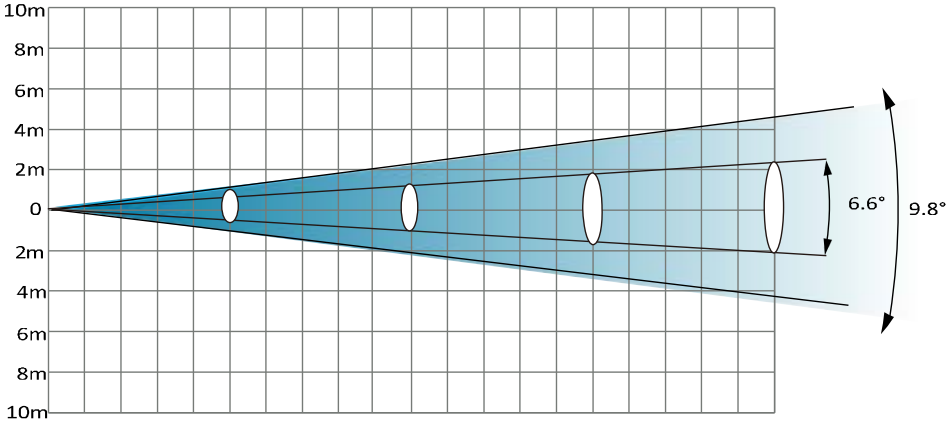
- **Certification and Safety**

EMC: EN 55103-1:2009, EN 55103-2:2009, EN 61000-3-2:2006+A2:2009, EN 61000-3-3:2013, GB/T 17743-2007, GB 17625.1-2012

Safety: EN 60598-2-17:1989/A2:1991, GB 7000.1-2015, GB 7000.217-2008

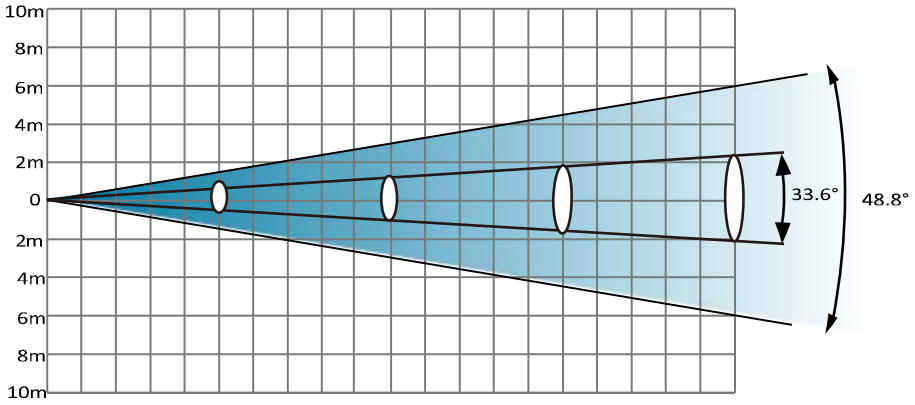
- **Photometric**

Illuminance(LUX)				
R	14100	3940	1950	1080
G	30500	8910	4220	2410
B	8200	2320	1100	624
W	44600	13200	6190	3530
F	90000	26000	12500	7070



Distance(m/ft.) 0	2.5/8.2	5/16.4	7.5/24.6	10/32.8
10%Beam Diameter(m/ft.)(6.6°)	Ø0.5/1.6	Ø0.9/2.9	Ø1.3/4.2	Ø1.7/5.6
50%Beam Diameter(m/ft.)(9.8°)	Ø0.3/1.0	Ø0.6/2.0	Ø0.9/3.0	Ø1.2/4.0

Illuminance(LUX)				
R	844	173	93.2	52.8
G	1690	401	193	110
B	438	102	48.7	27.2
W	2270	548	260	149
F	4930	1130	563	320



Distance(m/ft.) 0	2.5/8.2	5/16.4	7.5/24.6	10/32.8
50%Beam Diameter(m/ft.)(33.6°)	Ø1.5/4.9	Ø3.1/10.2	Ø4.5/14.8	Ø6.2/20.3
10%Beam Diameter(m/ft.)(48.8°)	Ø2.3/7.5	Ø4.7/15.4	Ø7.0/23.0	Ø9.3/30.5

- **Other features**

➢ Enhanced stability of the fixture due to the wide input voltage AC/DC switching power supply which both

reduces the impact of power and voltage fluctuations, and removes the restriction of voltage and frequency variations in different countries.

- Automatic energy saving: when the shutter or CMY is closed, power consumption will be reduced automatically with the photoelectric tracking induction echnology.
- Sleep mode: uses the most advanced technology to activate sleep mode remotely. When the fixture is disconnected from signal, the sleep mode is enabled automatically to make it more stable and safer. Sleep time can be customized.
- Power setting: built–in continuous rechargeable battery, allowing setting functional data via LCD interface without power connection.
- Communications Design：DMX wired/wireless transmission, bidirectional–control technology, upgrade the software quickly and conveniently by using DMX cable.
- Thermal design: The wind drainage and intelligent temperature monitoring technology can monitor lighting's state : on /off. It can adjust the thermal design by the position's temperature of lighting so that the temperature can be controlled.

8. Menu structure

Level 1	Level 2	Level 3	Level 4	Info
Run setting	Address Setting Value Display Auto-Program IP Address Setting Network Mask Set System ID Setting	Address: 001~XXX Pan……，All，Off Master /Slave 192.168.xxx.xxx 255.255.255.xx xxx		Setting the DMX address Display the channel value Run auto program in master or slave Setting the Artnet IP Address Setting the Network Mask Setting the system id
Device Info	Time Info	Since power on Total Time Last Time Lamp On Time Lamp Off Time Last Time Code Clear Last Time Lamp Time Code Clear Lamp Time	XXXXXX Hour XXXXXX Hour XXXXXX Hour XXXXXX Hour XXXXXX Minute Password: XXX(88) Yes/No Password: XXX(111) Yes/No	Since power on time Product total run time Last product run time Lamp on time Lamp close time Clear last time password Clear last time Clear lamp time password Clear lamp time
	Temperature	Temperature1/2/3	XXX ’C/’F	Body temperature
	Fans’ Err	Ok/Err/No		Show fans’ status
	Err Inf	No/...		Show this device’s status
	Software Version	X.X		The software version
System Setting	Status Setting	Console Set Addr No Signal Status Pan Reverse Tilt Reverse Pan Scan Degree Scan Feedback Scan Speed Standby Time	Enable/Disable Off/Hold/Auto/Music Enable/Disable Enable/Disable 360/540 Enable/Disable Quick/Middle/Low/Slow Disable/1~20~99 Min	Address can be changed by console The status while no signal Pan Reverse Tilt Reverse Pan Scan Degree Scan Feedback Change the scan speed Standby time
	Fan Speed	Smart Control High Speed Low Speed		Auto fans speed Fans high speed Fans low speed
	Display Setting	Backlight Time Key Lock Lightness Language Screen auto	1~80 Min/Disable Enable/Disable 15~100% 80% Chinese/English off/on/auto	Backlight off time Press <menu> 3s to unlock Back lightness of screen Change the language Screen change Setting
	Temperature Unit	Celsius Fahrenheit		Temperature unit
	Value Default	Pan……	Pan =XXX	The default value
	Wireless Dev	Wireless Off Wireless On Wireless Trans. Wireless Reset		Wireless off Wireless on Wireless transfer DMX data to another

				Wireless reset
	Restore Default	Yes/No		Restore to default value
Reset	System Reset Scan Reset ColorReset Gobo Reset Strobe Reset Other Reset			System reset Pan and tilt motor reset Color motor reset All gobo motor reset Strobe reset All other motor reset
Channel Adjust	Test Mode	Pan……		Every channel test
	Manual Mode	Pan**:**	Pan =XXX**:**	Manual control
	Adjust Mode	Input Password Pan**:**	Password=XXX(99) Pan=XXX**:**	The password of adjust mode Fixed all begin position
	Focus Mode	Input Password Pan**:**	Password=XXX(99) Pan=XXX**:**	The password of adjust mode Fixed all begin position
Channel Setting	Channel Mode	Standard Mode Simplified Mode Extended Mode Custom Mode 1 Custom Mode 2 Custom Mode 3		Standard channel mode Simplified channel mode Extended channel mode Custom channel mode 1 Custom channel mode 2 Custom channel mode 3
	Set Custom Mode1 Set Custom Mode2 Set Custom Mode3	Max Channel Pan**:**	Channel = XX Pan = CH01**:**	Change the channel order
Program Edit	Select Prog.	Program Unit 1 Program Unit 2 Program Unit 3	Program 1 ~10 Program 1 ~ 10 Program 1 ~ 10	Choose build-in program for slave 1 Choose build-in program for slave 2 Choose build-in program for slave 3
	Program Edit	Auto-Program1**:** Auto-Program10	Run Step 1=Scene xxx Step 8=Scene xxx	Choose the scene for program 1: Choose the scene for program 10
	Scene Edit	Scene Edit:001-250	Pan,……Pan=xxx Scene Time=xxx Input By Console	Edit the channel DMX Edit the scene time Get scene DMX form console
	Record Scene	Scene XX->XX		Record scene form console

***Settings highlighted in light grey are default values**

10. DMX Protocol

Standard

DMX mode Standard (21ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
1	Strobe/Shutter	0	31	0.0%	12.2%	Closed	0(0%)
		32	63	12.5%	24.7%	Open	
		64	127	25.1%	49.8%	Synchronous strobe from slow to fast	
		128	159	50.2%	62.4%	Open	
		160	223	62.7%	87.5%	Random strobe from slow to fast	
		224	255	87.8%	100.0%	Open	
2	Intensity	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Total Red	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Total Green	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Total Blue	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Total Whit	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
3	Red 1	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
4	Green 1	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
5	Blue 1	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
6	Whit 1	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
7	Red 2	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
8	Green 2	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
9	Blue 2	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
10	Whit 2	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
11	Red 3	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
12	Green 3	0	255	0.0%	100.0%	No light →Full light	0(0%)
12	Green 3	0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
13	Blue 3	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	

DMX mode Standard (21ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
14	Whit 3	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
15	Rainbow Function	0	9	0.0%	3.5%	No function	0(0%)
		10	39	3.9%	15.3%	Rainbow scene 1	
		40	71	15.7%	27.8%	Rainbow scene 2	
		72	103	28.2%	40.4%	Rainbow scene 3	
		104	135	40.8%	52.9%	Rainbow scene 4	
		136	167	53.3%	65.5%	Rainbow scene 5	
		168	199	65.9%	78.0%	Rainbow scene 6	
		200	231	78.4%	90.6%	Rainbow scene 7	
		232	255	91.0%	100.0%	Rainbow flow from slow to fast	
16	Color temperature	0	24	0.0%	9.4%	No function	0(0%)
		25	35	9.8%	13.7%	3200K	
		36	46	14.1%	18.0%	3400K	
		47	57	18.4%	22.4%	3600K	
		58	68	22.7%	26.7%	3800K	
		69	79	27.1%	31.0%	4000K	
		80	90	31.4%	35.3%	4200K	
		91	101	35.7%	39.6%	4400K	
		102	112	40.0%	43.9%	4600K	
		113	123	44.3%	48.2%	4800K	
		124	134	48.6%	52.5%	5000K	
		135	145	52.9%	56.9%	5200K	
		146	156	57.3%	61.2%	5400K	
		157	167	61.6%	65.5%	5600K	
		168	178	65.9%	69.8%	5800K	
		179	189	70.2%	74.1%	6000K	
		190	200	74.5%	78.4%	6200K	
		201	211	78.8%	82.7%	6400K	
		212	222	83.1%	87.1%	6600K	
		223	233	87.5%	91.4%	6800K	
		234	244	91.8%	95.7%	7000K	
		245	255	96.1%	100.0%	7200K	
17	Zoom	0	255	0.0%	100.0%	Near →Far	0(0%)
		0	65535	0.0%	100.0%	Zoom, fine (LSB)	
18	Pan	0	255	0.0%	100.0%	Pan	0(0%)
		0	65535	0.0%	100.0%	Pan, fine (LSB)	
19	Tilt	0	255	0.0%	100.0%	Tilt	46(18.0%)
		0	65535	0.0%	100.0%	Tilt, fine (LSB)	
20	Scan speed	0	255	0.0%	100.0%	Scan speed from fast to slow	0(0%)

DMX mode Standard (21ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
21	Special controls	0	59	0.0%	23.1%	No function	0(0%)
		60	69	23.5%	27.1%	Reset all motor after 5 seconds	
		70	79	27.5%	31.0%	Scan motor reset after 5 seconds	
		80	89	31.4%	34.9%	Strobe reset after 5 seconds	
		90	99	35.3%	38.8%	Zoom motor reset after 5 seconds	
		100	109	39.2%	42.7%	Built-in program 1	
		110	119	43.1%	46.7%	Built-in program 2	
		120	129	47.1%	50.6%	Built-in program 3	
		130	139	51.0%	54.5%	Built-in program 4	
		140	149	54.9%	58.4%	Built-in program 5	
		150	159	58.8%	62.4%	Built-in program 6	
		160	169	62.7%	66.3%	Built-in program 7	
		170	179	66.7%	70.2%	Built-in program 8	
		180	189	70.6%	74.1%	Built-in program 9	
		190	199	74.5%	78.0%	Built-in program 10	
		200	209	78.4%	82.0%	No function	
		210	219	82.4%	85.9%	No function	
		220	255	86.3%	100.0%	No function	

Basic

DMX mode Basic (21ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
1	Strobe/Shutter	0	31	0.0%	12.2%	Closed	0(0%)
		32	63	12.5%	24.7%	Open	
		64	127	25.1%	49.8%	Synchronous strobe from slow to fast	
		128	159	50.2%	62.4%	Open	
		160	223	62.7%	87.5%	Random strobe from slow to fast	
		224	255	87.8%	100.0%	Open	
2	Intensity	0	255	0.0%	100.0%	No light→ Full light	0(0%)
3		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
4	Total Red	0	255	0.0%	100.0%	No light→ Full light	0(0%)
5		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
6	Total Green	0	255	0.0%	100.0%	No light→ Full light	0(0%)
7		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
8	Total Blue	0	255	0.0%	100.0%	No light→ Full light	0(0%)
9		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
10	Total Whit	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
11	Red 1	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Green 1	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Blue 1	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Whit 1	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Red 2	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Green 2	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Blue 2	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Whit 2	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Red 3	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Green 3	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Blue 3	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
11	Whit 3	0	255	0.0%	100.0%	No light→ Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	

DMX mode Basic (21ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
12	Rainbow Function	0	9	0.0%	3.5%	No function	0(0%)
		10	39	3.9%	15.3%	Rainbow scene 1	
		40	71	15.7%	27.8%	Rainbow scene 2	
		72	103	28.2%	40.4%	Rainbow scene 3	
		104	135	40.8%	52.9%	Rainbow scene 4	
		136	167	53.3%	65.5%	Rainbow scene 5	
		168	199	65.9%	78.0%	Rainbow scene 6	
		200	231	78.4%	90.6%	Rainbow scene 7	
		232	255	91.0%	100.0%	Rainbow flow from slow to fast	
13	Color temperature	0	24	0.0%	9.4%	No function	0(0%)
		25	35	9.8%	13.7%	3200K	
		36	46	14.1%	18.0%	3400K	
		47	57	18.4%	22.4%	3600K	
		58	68	22.7%	26.7%	3800K	
		69	79	27.1%	31.0%	4000K	
		80	90	31.4%	35.3%	4200K	
		91	101	35.7%	39.6%	4400K	
		102	112	40.0%	43.9%	4600K	
		113	123	44.3%	48.2%	4800K	
		124	134	48.6%	52.5%	5000K	
		135	145	52.9%	56.9%	5200K	
		146	156	57.3%	61.2%	5400K	
		157	167	61.6%	65.5%	5600K	
		168	178	65.9%	69.8%	5800K	
		179	189	70.2%	74.1%	6000K	
		190	200	74.5%	78.4%	6200K	
		201	211	78.8%	82.7%	6400K	
		212	222	83.1%	87.1%	6600K	
		223	233	87.5%	91.4%	6800K	
		234	244	91.8%	95.7%	7000K	
		245	255	96.1%	100.0%	7200K	
14	Zoom	0	255	0.0%	100.0%	Near→ Far	0(0%)
15		0	65535	0.0%	100.0%	Zoom, fine (LSB)	
16	Pan	0	255	0.0%	100.0%	Pan	0(0%)
17		0	65535	0.0%	100.0%	Pan, fine (LSB)	
18	Tilt	0	255	0.0%	100.0%	Tilt	46(18.0%)
19		0	65535	0.0%	100.0%	Tilt, fine (LSB)	
20	Scan speed	0	255	0.0%	100.0%	Scan speed from fast to slow	0(0%)
	Special controls	0	59	0.0%	23.1%	No function	0(0%)
		60	69	23.5%	27.1%	Reset all motor after 5 seconds	

DMX mode Basic (21ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
21		70	79	27.5%	31.0%	Scan motor reset after 5 seconds	
		80	89	31.4%	34.9%	Strobe reset after 5 seconds	
		90	99	35.3%	38.8%	Zoom motor reset after 5 seconds	0(0%)
		100	109	39.2%	42.7%	Built-in program 1	
		110	119	43.1%	46.7%	Built-in program 2	
		120	129	47.1%	50.6%	Built-in program 3	
		130	139	51.0%	54.5%	Built-in program 4	
		140	149	54.9%	58.4%	Built-in program 5	
		150	159	58.8%	62.4%	Built-in program 6	
		160	169	62.7%	66.3%	Built-in program 7	
		170	179	66.7%	70.2%	Built-in program 8	
		180	189	70.6%	74.1%	Built-in program 9	
		190	199	74.5%	78.0%	Built-in program 10	
		200	209	78.4%	82.0%	No function	
		210	219	82.4%	85.9%	No function	
		220	255	86.3%	100.0%	No function	

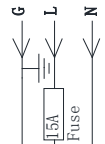
Extended

DMX mode Extended (37ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
1	Strobe/Shutter	0	31	0.0%	12.2%	Closed	0(0%)
		32	63	12.5%	24.7%	Open	
		64	127	25.1%	49.8%	Synchronous strobe from slow to fast	
		128	159	50.2%	62.4%	Open	
		160	223	62.7%	87.5%	Random strobe from slow to fast	
		224	255	87.8%	100.0%	Open	
2	Intensity	0	255	0.0%	100.0%	No light→Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
3	Total Red	0	255	0.0%	100.0%	No light→Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Total Green	0	255	0.0%	100.0%	No light →Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Total Blue	0	255	0.0%	100.0%	No light→Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
	Total Whit	0	255	0.0%	100.0%	No light→Full light	0(0%)
		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
4	Red 1	0	255	0.0%	100.0%	No light→Full light	0(0%)
5		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
6	Green 1	0	255	0.0%	100.0%	No light→Full light	0(0%)
7		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
8	Blue 1	0	255	0.0%	100.0%	No light→Full light	0(0%)
9		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
10	Whit 1	0	255	0.0%	100.0%	No light→Full light	0(0%)
11		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
12	Red 2	0	255	0.0%	100.0%	No light→Full light	0(0%)
13		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
14	Green 2	0	255	0.0%	100.0%	No light→Full light	0(0%)
15		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
16	Blue 2	0	255	0.0%	100.0%	No light →Full light	0(0%)
17		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
18	Whit 2	0	255	0.0%	100.0%	No light → Full light	0(0%)
19		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
20	Red 3	0	255	0.0%	100.0%	No light→ Full light	0(0%)
21		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
22	Green 3	0	255	0.0%	100.0%	No light → Full light	0(0%)
23		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
24	Blue 3	0	255	0.0%	100.0%	No light → Full light	0(0%)
25		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
26	Whit 3	0	255	0.0%	100.0%	No light → Full light	0(0%)
27		0	65535	0.0%	100.0%	Intensity fade, fine (LSB)	

DMX mode Extended (37ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
28	Rainbow Function	0	9	0.0%	3.5%	No function	0(0%)
		10	39	3.9%	15.3%	Rainbow scene 1	
		40	71	15.7%	27.8%	Rainbow scene 2	
		72	103	28.2%	40.4%	Rainbow scene 3	
		104	135	40.8%	52.9%	Rainbow scene 4	
		136	167	53.3%	65.5%	Rainbow scene 5	
		168	199	65.9%	78.0%	Rainbow scene 6	
		200	231	78.4%	90.6%	Rainbow scene 7	
		232	255	91.0%	100.0%	Rainbow flow from slow to fast	
29	Color temperature	0	24	0.0%	9.4%	No function	0(0%)
		25	35	9.8%	13.7%	3200K	
		36	46	14.1%	18.0%	3400K	
		47	57	18.4%	22.4%	3600K	
		58	68	22.7%	26.7%	3800K	
		69	79	27.1%	31.0%	4000K	
		80	90	31.4%	35.3%	4200K	
		91	101	35.7%	39.6%	4400K	
		102	112	40.0%	43.9%	4600K	
		113	123	44.3%	48.2%	4800K	
		124	134	48.6%	52.5%	5000K	
		135	145	52.9%	56.9%	5200K	
		146	156	57.3%	61.2%	5400K	
		157	167	61.6%	65.5%	5600K	
		168	178	65.9%	69.8%	5800K	
		179	189	70.2%	74.1%	6000K	
		190	200	74.5%	78.4%	6200K	
		201	211	78.8%	82.7%	6400K	
		212	222	83.1%	87.1%	6600K	
		223	233	87.5%	91.4%	6800K	
		234	244	91.8%	95.7%	7000K	
		245	255	96.1%	100.0%	7200K	
30	Zoom	0	255	0.0%	100.0%	Near→Far	0(0%)
31		0	65535	0.0%	100.0%	Zoom, fine (LSB)	
32	Pan	0	255	0.0%	100.0%	Pan	0(0%)
33		0	65535	0.0%	100.0%	Pan, fine (LSB)	
34	Tilt	0	255	0.0%	100.0%	Tilt	46(18.0%)
35		0	65535	0.0%	100.0%	Tilt, fine (LSB)	
36	Scan speed	0	255	0.0%	100.0%	Scan speed from fast to slow	0(0%)
37	Special controls	0	59	0.0%	23.1%	No function	0(0%)
		60	69	23.5%	27.1%	Reset all motor after 5 seconds	

DMX mode Extended (37ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
		70	79	27.5%	31.0%	Scan motor reset after 5 seconds	
37	Special controls	80	89	31.4%	34.9%	Strobe reset after 5 seconds	0(0%)
		90	99	35.3%	38.8%	Zoom motor reset after 5 seconds	
		100	109	39.2%	42.7%	Built-in program 1	
		110	119	43.1%	46.7%	Built-in program 2	
		120	129	47.1%	50.6%	Built-in program 3	
		130	139	51.0%	54.5%	Built-in program 4	
		140	149	54.9%	58.4%	Built-in program 5	
		150	159	58.8%	62.4%	Built-in program 6	
		160	169	62.7%	66.3%	Built-in program 7	
		170	179	66.7%	70.2%	Built-in program 8	
		180	189	70.6%	74.1%	Built-in program 9	
		190	199	74.5%	78.0%	Built-in program 10	
		200	209	78.4%	82.0%	No function	
		210	219	82.4%	85.9%	No function	
		220	255	86.3%	100.0%	No function	

11. System wiring diagram



12. Maintenance and Troubleshooting

12.1 Cleaning and maintenance

It is required that the fixture should be kept clean and well maintained to ensure its reliability. Its lifespan mainly depends on the working environment and proper operation. Should you have any questions, please consult a technical engineer of GTD Lighting.

Notes: Damage resulted from dust, smoke, oil or improper use is not covered by warranty.

Notes: Disconnect the fixture from AC power, and let it cool down for at least 15 minutes before opening the housing. Make sure to use a soft cloth to clean the optical components, and be careful, as the coating is easily scratched. Do not use any organic solvent such as alcohol to clean the reflector mirror, dichroic color filters or housing of the fixture.

- If the lens is cracked or otherwise damaged, replace it immediately.
- If the lamp becomes damaged or deformed in any way it must be replaced.
- If the light from the lamp appears dim, this normally indicates that it is reaching the end of its life span and should be changed at once. Aged lamps run to the extremity of their life might explode.。
- If fixture does not function, check the fuse on the power socket of the fixture. Replace the fuse of the same specification if it is blown.
- The fixture is equipped with thermal-protection device that will switch off the lamp in case of overheating. If this happens, please check that the fans are not blocked, and clean them if they are dirty. Check whether the fans are operational. If not, call a qualified technician.

12.2 Troubleshooting

Problem	Possible Cause	Suggested Correction
No response after connected to A/C power	Power switch not turned on.	Turn on power switch.
	Take out the fuse and check if it is blown.	Locate the blown fuse. Remove the broken fuse. Insert areplacement fuse of the correct amperage
	Abnormal A/C input (A/C power socket, power cables, luminaire power socket).	Replace AC power socket and power cables, and then adjust power socket for proper connection.
	No DC voltage from switching power supply.	Check if the switching power supply has DC voltage output. Replace the switching power supply.
No response or wrong response to the commands of the control system	DMX cables disconnected from fixture's DATA IN connector.	Connect DMX cable to the fixture's DATA IN connector.
	Open circuit or short circuit fault in the DMX cables.	Replace DMX cables as required.
	Wrong DMX address for the fixture in the control system.	Ensure the address in "Run setting > Address Setting >Address" of the fixture is consistent with the address in the control system.
	Misuse in "Channel setting > Channel Mode of the fixture.	Choose the channel mode in "Channel setting > Channel Mode" of the fixture as required by the

Problem	Possible Cause	Suggested Correction
		user
	Malfunctioning of DMX cannon input/output connectors. No input/output voltage to the main control board of the fixture.	Troubleshooting the DMX XLR signal plate of the fixture, replace the main control board of the fixture.
The lamp does not start when switch is turned on	Normal end of lamp life.	Test the lamp in an adjacent fixture which is known to be operating properly and then replace as necessary
	Whether the function of the relay board is intact, whether the signal is normal or not.	Repair or replace.
	Shorted leads between ballast and the lamp	Replace components as required.
	Incorrect ballast output.	Check ballast output to determine if it conforms to lamp requirements. If voltage and current do not stabilize in five to ten minutes warm-up time, ballast output is incorrect and adjustment should be made. Check capacitor wiring, if visibly available, to determine if capacitors are properly wired.
	Incorrect triggers output.	Replace triggers.
The lamp is off unexpected	The fixture is in sleep mode	Should the fixture is not in active use for “standby time”, the sleep mode is enabled automatically to make it more stable and safer, sleep time can be customized.
	Lamp has been operating: cool down time insufficient.	Environmental conditions such as extreme temperatures will have the fixture stop working, the lamps will require a period of time to cool and re-establish optimum starting conditions. Restart time varies with the degree of ventilation built into it, ambient temperature, and draft conditions.
	Overheat ballast resulting in premature failure or damaged ballast.	The ballast incorporate internal automatic-resetting thermal protection, which deactivates the ballast should it overheat. Normal operation resumes once the ballast has cooled sufficiently. Burned-out or failing lamps, or high temperatures in or around the fixture, can cause the ballast to overheat, so we need solve the problem and replace components as required

Problem	Possible Cause	Suggested Correction
	Thermostat damaged.	Replace.
Shaking, wrong position, and out of control gobo wheel	No function the connector between gobo wheel motor and drive, loose, damaged, or broken cables connecting the gobo wheel and drive.	Reconnect the gobo wheel motor to the drive, and replace cables as required.
	The gobo wheel motor's drive IC on the PCB might be out of condition.	Replace the drive having the same software version as required.
	Dislocated magnetic tube and positioning magnet, or damaged magnetic tube.	Calibrate the position of the magnetic tube to the positioning magnet, and replace magnetic tube as required
	Shaking motor, wrong rotation angle, losing step or damaged motor	Replace the motor as required.
Decreased brightness, uneven pattern projections	Normal end of lamp life.	Test the lamp in an adjacent fixture which is known to be operating properly and then replace as necessary
	The midline of the lamp is not aligned with the center point of the effect assembly (consisting of the rotating gobo wheel, static gobo wheel, color wheel, strobe, prism, and frost), focus module, and object lens.	Reinstall the lamp. Adjust the lamp position until the midline of the lamp is aligned with the center point of the effect assemblies (consisting of the rotating gobo wheel, static gobo wheel, color wheel, strobe, prism, frost, the focus adjusting module, and the object lens).
	Excessive dusts or smudges on the effect assembly, focus module and objective lens.	Follow the instructions stated in this user manual to clean the effect assembly, focus module and objective lens.
	Damaged or deformed effect assembly, focus module or objective lens.	Replace the damaged or deformed components
Wrong color	Normal end of lamp life	Test the lamp in an adjacent fixture which is known to be operating properly and then replace as necessary
	Excessive dusts or smudges on the rotating gobo wheel or color wheel.	Follow the instructions stated in this user manual to clean the rotating gobo wheel or color wheel.
	Rotating gobo wheel, color wheel with coating wearing off, damages or deformation	Replace the worn-off, damaged or deformed rotating gobo wheel and color wheel
Non-clear shape	Excessive dusts or smudges on the rotating gobo wheel or color wheel	Follow the instructions stated in this user manual to clean the rotating gobo wheel or color wheel.

Problem	Possible Cause	Suggested Correction
	Excessive dusts or smudges on the focus module or objective lens	Follow the instructions stated in this user manual to clean the focus module or objective lens
	Damaged or deformed focus module or objective lens.	Replace the damaged or deformed focus module or objective lens.

13. Spare parts list

Name	P/N	Qty	Notes
display panel	5809210243A	1	101J10 SDI0113A /0113A–13003A–1
Scanning plate	5809210245A	1	201N10 SCR8107A /8107A–1
LED drive board	5809210245A	1	301P10 LCR3003B / 3003B–1