GTD

GTD-LM1000N BSWP

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.
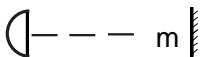
Minimum distance to lighted objects.

ta...°C Maximum ambient temperature.

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

⚠ General guidelines

- The protection rating of this product IP20.

- 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 158˚F (70˚C).

- Maximum ambient temperature 113˚F (45˚C).

- Minimum distance of inflammable materials from the surface 1.6 4feet (0.5m).

- 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

Cap as- lamp {
objective
Zoom
Focus
Atomization
Prism
}

Framing blade system

Color & gobo wheels module

CMY {
CMY
CTO
}

Lamp holder assembly

Pan- tilt frame

Base module
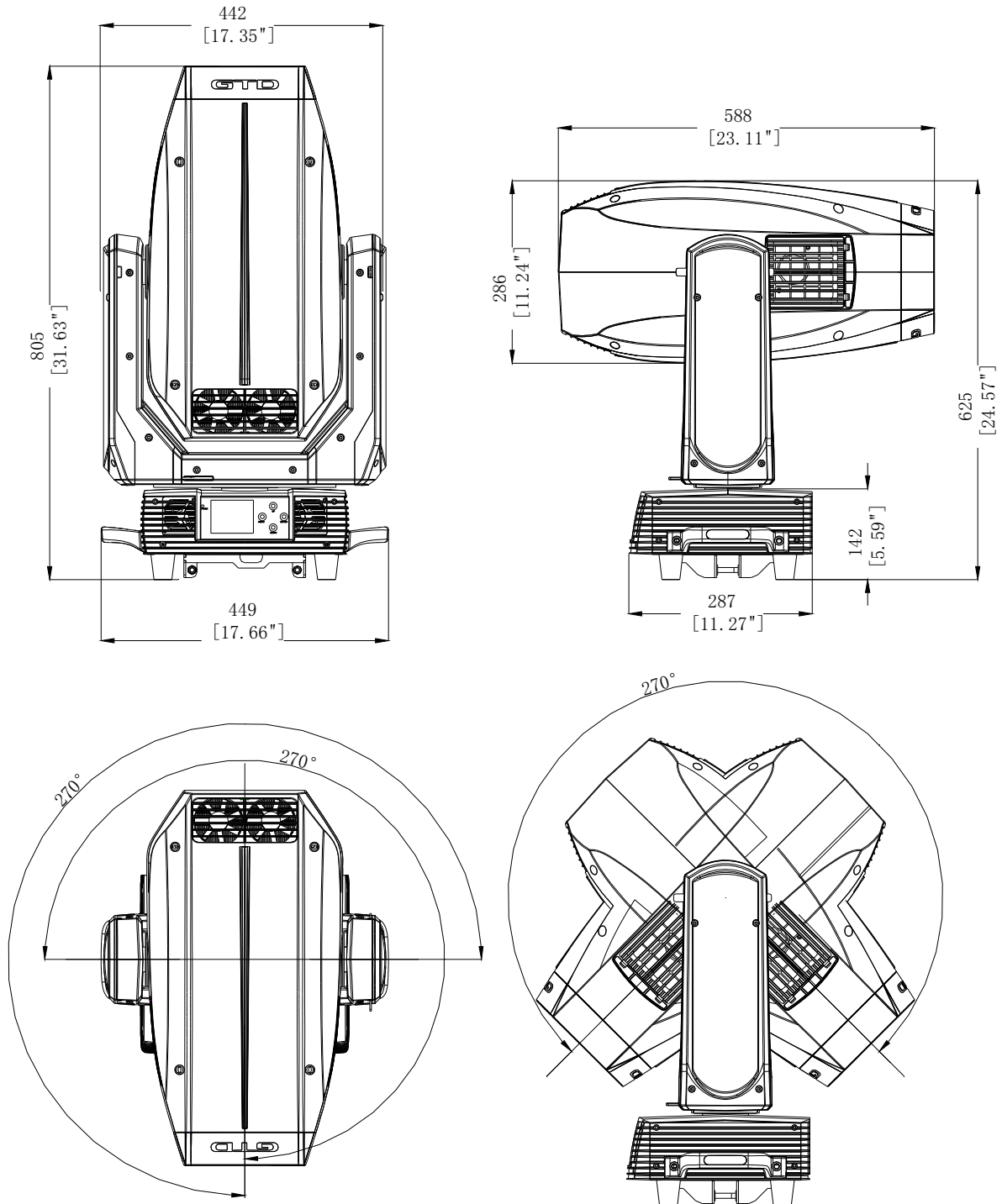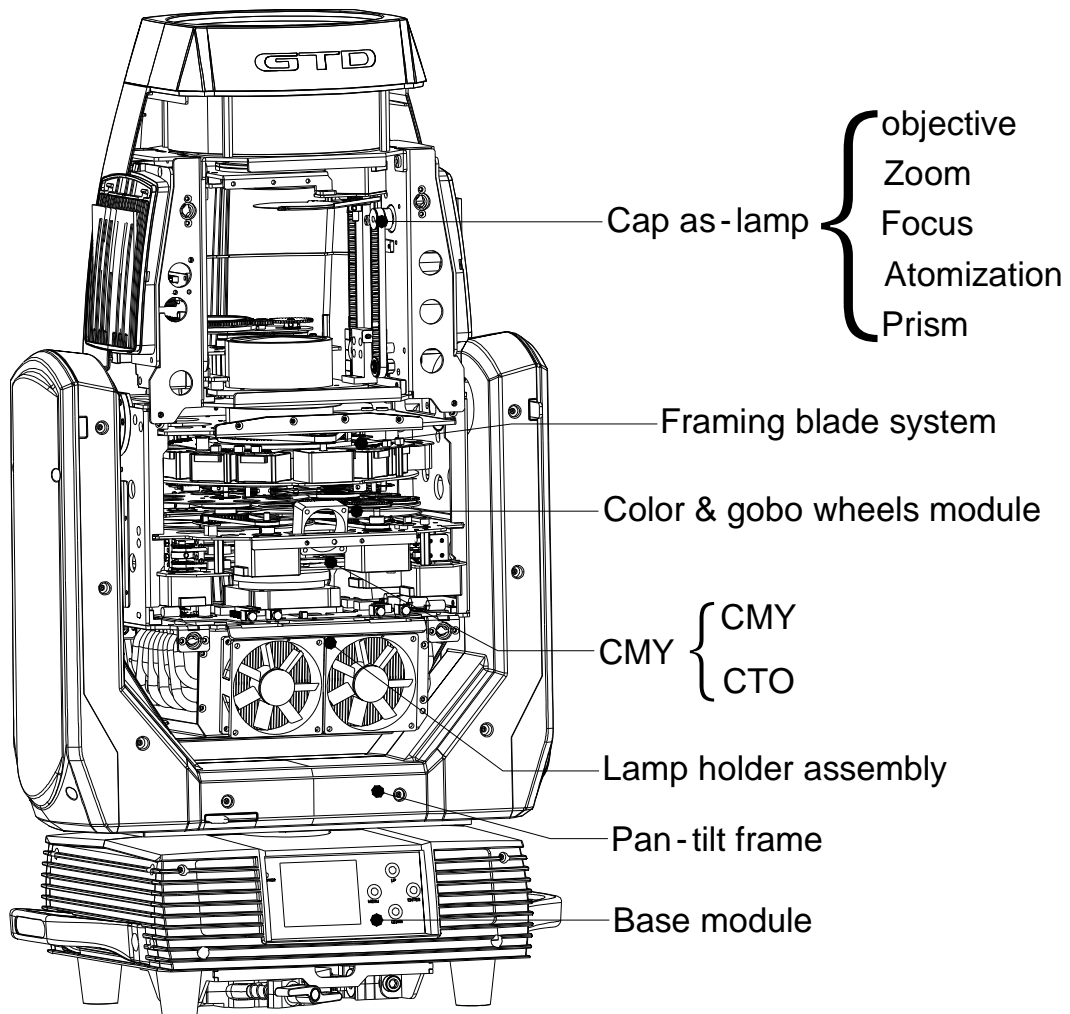
2.3 Accessories

Item	Qty	Unit	Remark
User Manual	1	Pc	--
Safety cable	2	Pcs	Φ5*60cm 7*19 pc with hook　Material　Steel
3-pins signal line	1	Set	--

3. Packing and shipping

3.1 Protection lock

Pan and tilt locks are equipped to ensure safe transportation.

The horizontal axis has 8 locking points and the vertical axis has 4 locking points.
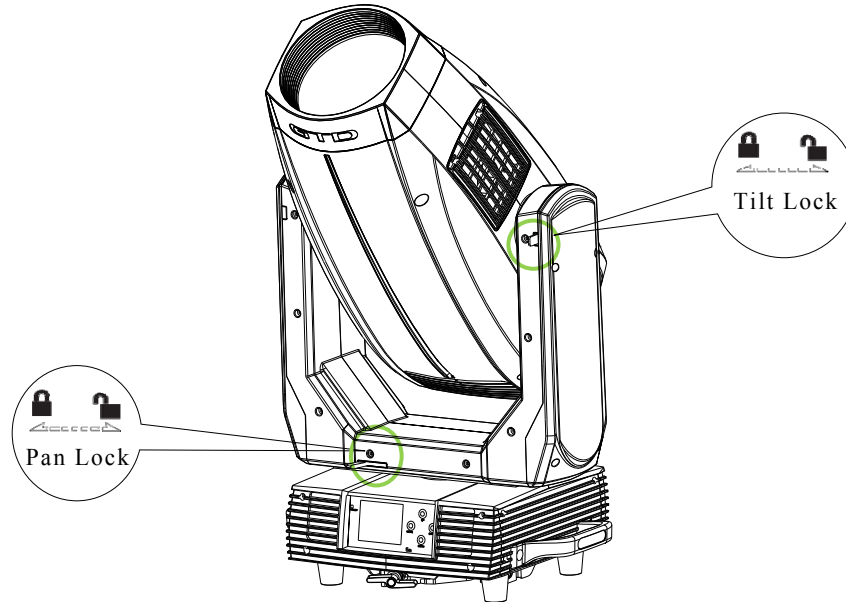
3.2 Unpacking

⚠ 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: 645*505*715mm): One set in a box. 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   744*715*525mm)   One set in a box. 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.
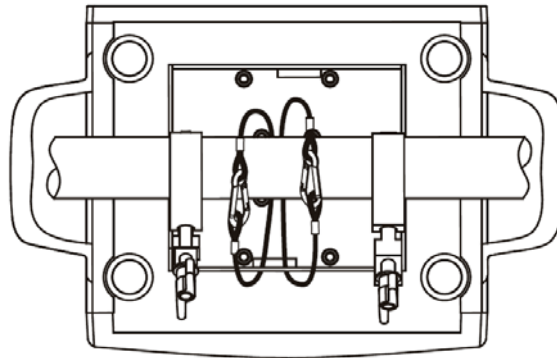
2. The clamp is mounted on the chassis of the fixture. Horizontally insert the clamp into the mounting holes of the chassis. Fasten the clamp tightly by a 1/4 turn clockwise. Fix another clamp in the same way.

3. If equipped with folding clamp, please raise the clamp and rotate it to adjust the opening direction.

4. Check if pan.
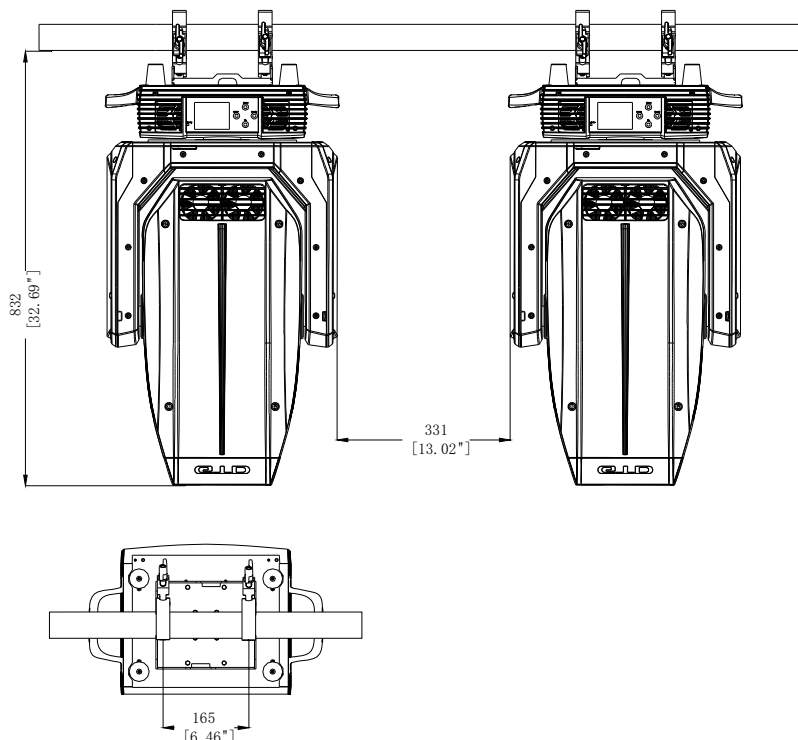
5. Power/ Control connection

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.

DMX 512	
1	Ground
2	-
3	+
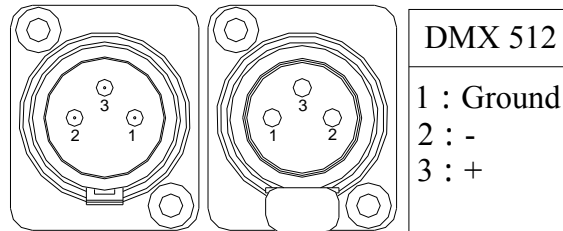
Connect the Console's DMX OUTPUT to the first fixture's DMX INPUT, then the first fixture's DMX OUTPUT to the second fixture's DMX INPUT and so on. It is recommended not to connect more than 32 units on a single DMX universe. On the last fixture's output connect a DMX terminator. (The terminator is a 3-pin XLR connector with a 1/2W and 120Ω resistor between the pin 2 and pin 3) as shown below:

DMX terminator   Console

Input   Output   Output   Input   Input   Output
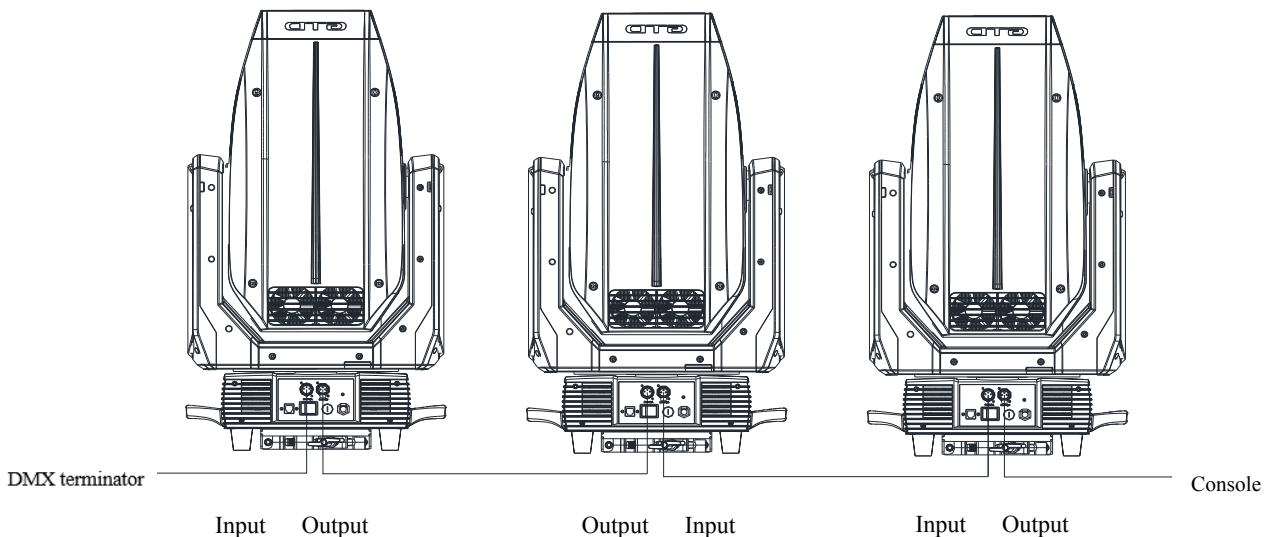
5.3 Testing

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
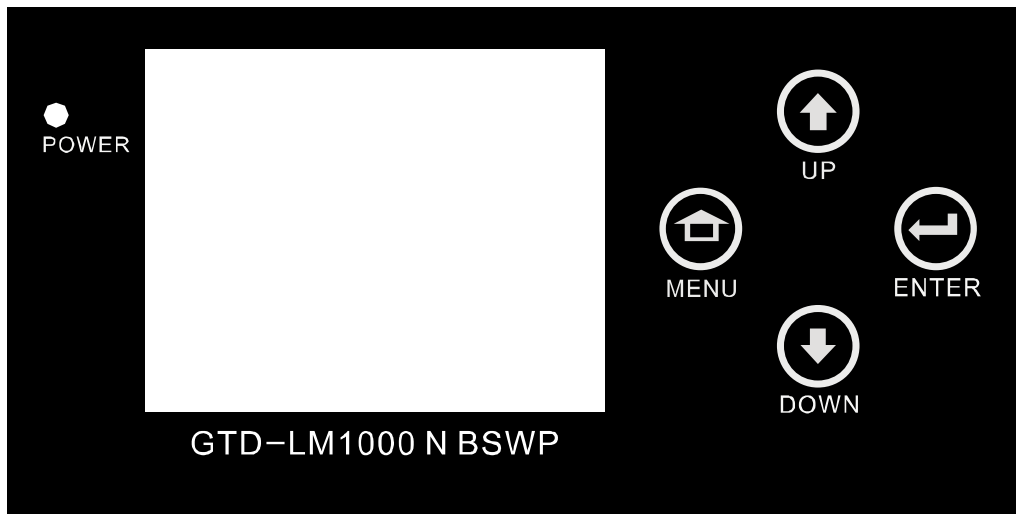
- The control panel features touch-sensitive buttons and LCD digital display for quick and easy setup of address code and functions menu.
- Press MENU to view or select the function, press UP or DOWN to view or select the function menu.
- Press ENTER to choose a function and enter into corresponding submenu. Each menu represents a specific function of the fixture.
- Press ENTER to 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 MENU to return to the previous menu or exit.
- LED indicator light: RED light.

7. Technical specification

- **Optical**

  Light source: LED 1000W

  Expected average lifetime: 20000 h

  Lumens: large angle   35000lm

  Zoom range   5°~50°Linear high speed zoom   the spot is uniform and consistent in any range

  CRI   Ra   70   plus filter can reach more than 90,   optional Ra   95 version

  Focus: multi-point focus, focus from5 meters to infinity tracking

  Prism: 1 four-prism

  Frost: 1-independent frost effect

- **Gobo**

  Rotating gobo wheel: 1 interchangeable gobo rotator, 6 optional pattern pieces, CW/CCW rotation, variable speed.

  Fixed gobo wheel: 1 fixed gobos +7 pattern pieces +open, CW/CCW rotation, variable speed.

  Effect gobo wheel: One effect wheel can rotate graphics in both directions, and can be combined with other patterns to produce dynamic effects such as flame, water grain, wave, Buddha cloud and so on.

  Cutting wheel: 1 cutting wheel capable of rotating 90 °; 4 mobile cutting molding pieces; Various geometric figures of different sizes can be generated, and 4 cutting pieces can achieve the whole cutting effect.

- **Color**

  Color wheel: 6 color gel and open gobo, "Rainbow effect" in both directions

  CMY: infinite color mixed

  CTO: 6500K-2700K

- **Electrical**

  Power input, nominal: AC 100-240V 50/60Hz

  Max. Power consumption: 1334W

  Max current: 13.06A   PF: 0.97

  Main fuse: 250V / 15A

  Power input: self-contained power cord

  DMX data input/output: Chassis 3-pin

- **Control and programming**

  Control channels (DMX): 36/33/52

  Protocol: DMX-512, RDM

  Display: LCD

- **Physical / Installation**

  Weight: 83.78bs. (38kg)   including lamp hook

  IP rating: IP20

  Material: Aluminum, copper, steel, plastic, iron

  Mounting points: 2 fixed folding lamp hook + attachment points for safety wire

- **Dynamic effects**

  Pan/Tilt movement: 540˚/270˚ adopting a function which resets 32bit accurately and automatically

  Strobe: 1-20Hz

  Dimmer: 0-100%, mechanical linear dimming

- **Thermal**

  - Operating range: 14˚F to 113˚F (-10˚C to 45˚C)
  - Startup range: -13˚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: ≤85%

- **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**

Ra 70

Illuminance   LUX

5°	96100	16500	7970	4010
50°	2730	761	612	269

Distance (m/ft.) 0	5/16.40	10/32.81	15/49.21	20/65.62
Beam diameter(m/ft.)(5°)	Φ0.44/1.44	0.88/2.89	1.32/4.33	1.76/5.77
Beam diameter(m/ft.)(50°)	4.66/15.29	9.32/30.58	13.98/45.87	18.64/61.15

Ra　95

Illuminance　LUX

	5°	67500	11590	5600	2816
	50°	1980	552	443	198

Distance (m/ft.)	0	5/16.40	10/32.81	15/49.21	20/65.62
Beam diameter(m/ft.)(5°)		Φ0.44/1.44	0.88/2.89	1.32/4.33	1.76/5.77
Beam diameter(m/ft.)(50°)		4.66/15.29	9.32/30.58	13.98/45.87	18.64/61.15

● **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 technology.

➢ 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. Gobos and colors

8.1 Gobo specification

All patterns are made onto the metal gobos, and can be customized according to user's requirement.

The customized size is as below:

Gobo material	Outer dimension	Effective dimension	Thickness
Glass gobo	Φ27mm	Φ22mm	1.1mm
Glass gobo	Φ27mm	Φ27mm	3.5mm
Gobo material: Glass			

8.2 Gobos
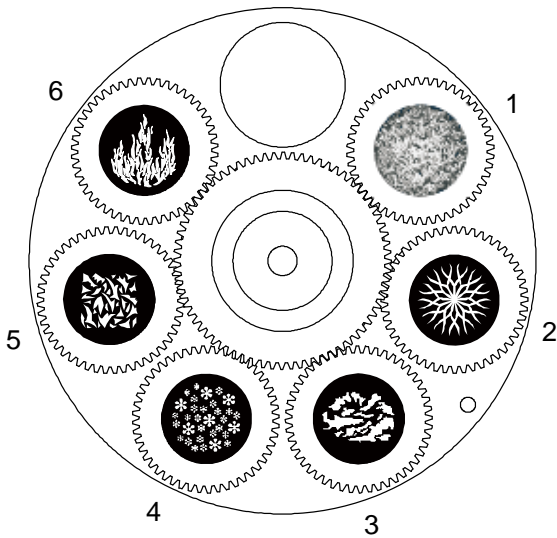
Rotating gobo wheel
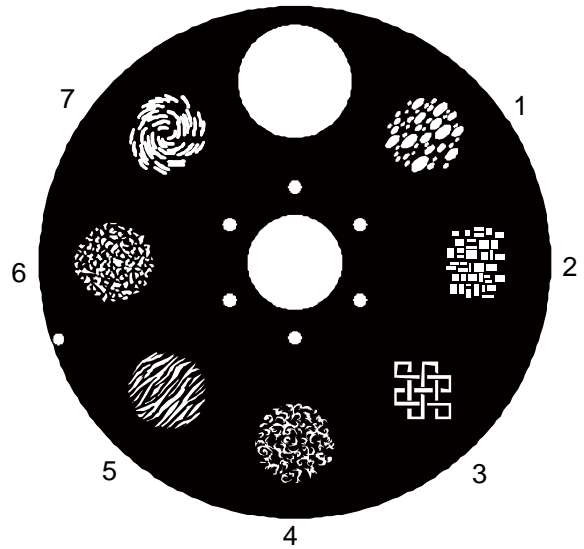
Fixed gobo wheel
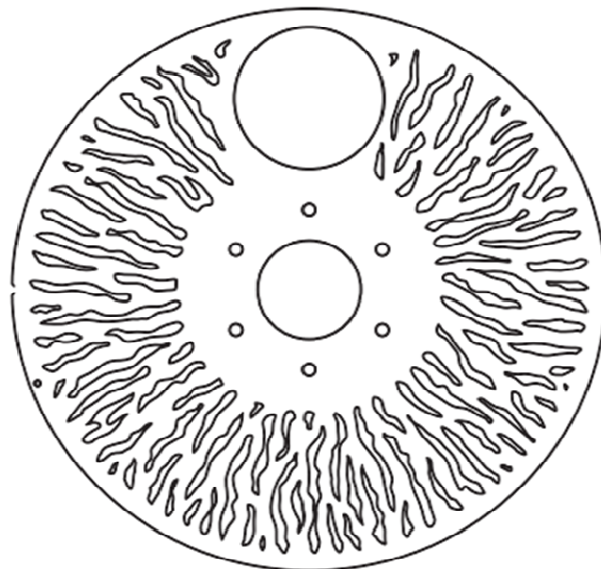
Effect gobo wheel

8.3 Colors

Color wheel
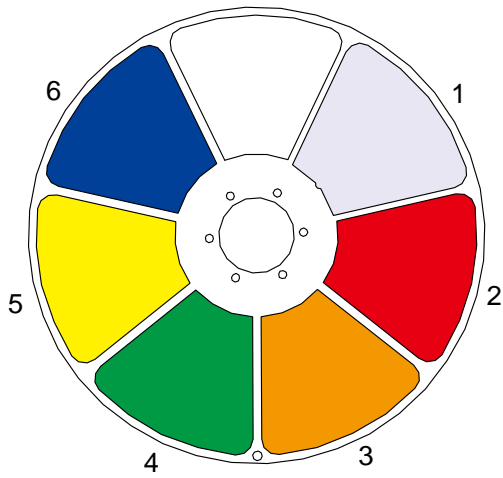
CMY/CTO
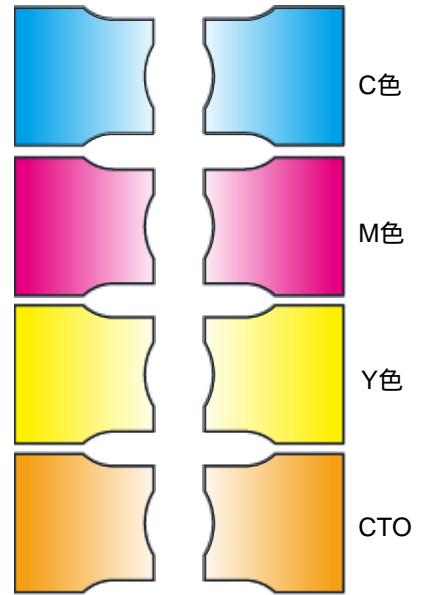
1.CPI filter	2.Red	3.Orange
4.Green	5.Yellow	6.Blue

8.4 Cutting effect

some effect
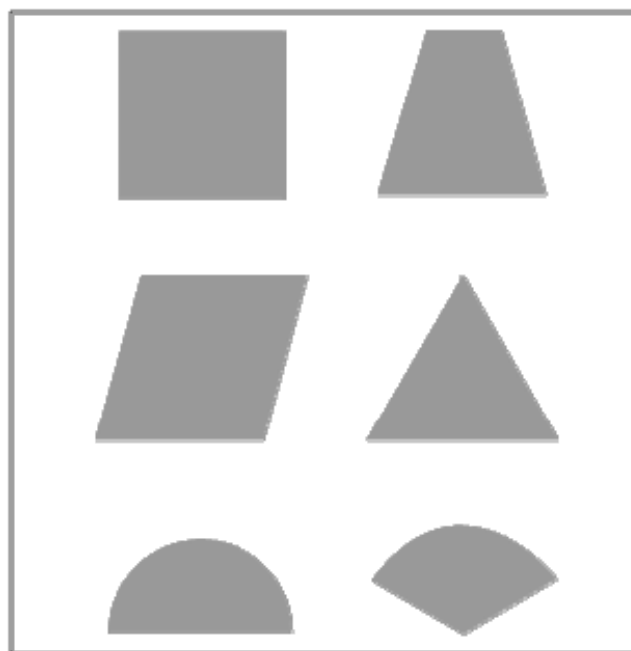
9. Menu structure

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

	Default			
	Product Select	- Password-	GTD xxx xxx xxx	Product Name Select
Reset	System Reset			System reset
	Scan Reset			Pan and tilt motor reset
	ColorReset			Color motor reset
	Gobo Reset			All gobo motor reset
	Other 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 (36ch)	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	Cyan	0	255	0.0%	100.0%	White →Full cyan	0(0%)
4	Magenta	0	255	0.0%	100.0%	White →Full magenta	0(0%)
5	Yellow	0	255	0.0%	100.0%	White →Full yellow	0(0%)
6	CMY color macro	0	15	0.0%	5.9%	CMY color macro off	0(0%)
		16	135	6.3%	52.9%	CMY synchronous color from slow to fast	
		136	255	53.3%	100.0%	CMY random color from slow to fast	
7	CTO	0	255	0.0%	100.0%	White → Full CTO	0(0%)
8	Color wheel	0	13	0.0%	5.1%	Open	0(0%)
		14	32	5.5%	12.5%	Color 1	
		33	51	12.9%	20.0%	Color 2	
		52	70	20.4%	27.5%	Color 3	
		71	89	27.8%	34.9%	Color 4	
		90	108	35.3%	42.3%	Color 5	
		109	127	42.8%	49.8%	Color 6	
		128	187	50.2%	73.3%	Color continous rotation CW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100%	Color continous rotation CCW from slow to fast	
9	Gobo wheel (static)	0	15	0.0%	5.9%	Open	0(0%)
		16	23	6.3%	9.0%	Gobo 1	
		24	31	9.4%	12.1%	Gobo 2	
		32	39	12.5%	15.3%	Gobo 3	
		40	47	15.7%	18.4%	Gobo 4	
		48	55	18.8%	21.5%	Gobo 5	
		56	63	21.9%	24.7%	Gobo 6	
		64	71	25.1%	27.8%	Gobo 7	

DMX mode Standard (36ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
9	Gobo wheel (static)	72	79	28.2%	31.0%	Gobo 1 shake	0(0%)
		80	87	31.4%	34.1%	Gobo 2 shake	
		88	95	34.5%	37.3%	Gobo 3 shake	
		96	103	37.7%	40.4%	Gobo 4 shake	
		104	111	40.8%	43.5%	Gobo 5 shake	
		112	119	43.9%	46.7%	Gobo 6 shake	
		120	127	47.1%	49.8%	Gobo 7 shake	
		128	187	50.2%	73.3%	Gobo wheel continous rotation CW from slow to fast	
		188	195	73.7%	76.4%	Stop	
		196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
10	Rotating gobo wheel	0	13	0.0%	5.1%	Open gobo	0(0%)
		14	23	5.5%	9.0%	Gobo 1	
		24	33	9.4%	12.9%	Gobo 2	
		34	43	13.3%	16.9%	Gobo 3	
		44	53	17.3%	20.8%	Gobo 4	
		54	63	21.2%	24.7%	Gobo 5	
		64	73	25.1%	28.6%	Gobo 6	
		74	82	29.0%	32.2%	Gobo 1 shake	
		83	91	32.5%	35.7%	Gobo 2 shake	
		92	100	36.1%	39.2%	Gobo 3 shake	
		101	109	39.6%	42.8%	Gobo 4 shake	
		110	118	43.1%	46.3%	Gobo 5 shake	
		119	127	46.7%	49.8%	Gobo 6 shake	
		128	187	50.2%	73.3%	Gobo wheel continous rotation CW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
11	Gobo rotating/positioning gobo wheel	0	127	0.0%	49.8%	Gobo rotation/positioning	0(0%)
		128	187	50.2%	73.3%	Gobo continous rotation CCW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo continous rotation CW from slow to fast	
12		0	255	0.0%	100.0%	Gobo rotation/positioning, fine (LSB)	0(0%)
13	Blade 1	0	255	0.0%	100.0%	White →Full Blade 1	0(0%)
14	Blade 2	0	255	0.0%	100.0%	White →Full Blade 2	0(0%)

MX mode Standard (36ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
15	Blade 3	0	255	0.0%	100.0%	White →Full Blade 3	0(0%)
16	Blade 4	0	255	0.0%	100.0%	White →Full Blade 4	0(0%)
17	Blade 5	0	255	0.0%	100.0%	White →Full Blade 5	0(0%)
18	Blade 6	0	255	0.0%	100.0%	White →Full Blade 6	0(0%)
19	Blade 7	0	255	0.0%	100.0%	White →Full Blade 7	0(0%)
20	Blade 8	0	255	0.0%	100.0%	White →Full Blade 8	0(0%)
21	Framing Rotation	0	255	0.0%	100.0%	Framing Rotation	0(0%)
22	Framing Rotation speed	0	255	0.0%	100.0%	Framing Rotation speed from fast to slow	0(0%)
23	Iris	0	255	0.0%	100.0%	Open →Close	0(0%)
24	Iris macro	0	31	0.0%	12.2%	Off iris	0(0%)
		32	63	12.5%	24.7%	Effect - Synchronous open from fast to slow	
		64	95	25.1%	37.3%	Effect - Synchronous open from slow to fast	
		96	127	37.6%	49.8%	Effect - Random open from slow to fast	
		128	159	50.2%	62.4%	Effect - Random open from fast to slow	
		160	191	62.7%	74.9%	Effect - Random	
		192	255	75.3%	100.0%	Maximum iris	
25	Focus	0	255	0.0%	100.0%	Near →Far	0(0%)
26	Zoom	0	255	0.0%	100.0%	Narrow →Wide	0(0%)
27	Prism	0	31	0.0%	12.2%	Off	0(0%)
		32	255	12.6%	100.0%	On	
28	Prism rotation	0	127	0.0%	49.8%	Prism rotation/positioning	0(0%)
		128	187	50.2%	73.3%	Prism rotation CW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Prism continous rotation CCW from slow to fast	
29	Frost	0	31	0.0%	12.2%	Off	0(0%)
		32	255	12.5%	100.0%	On	
30	Effect wheel (Fire)	0	31	0.0%	12.2%	Off	0(0%)
		32	127	12.6%	49.8%	Effect wheel random position	
		128	255	50.2%	100.0%	Effect wheel rotation from slow to fast	
31	Pan	0	255	0.0%	100.0%	Pan	0(0%)
32		0	255	0.0%	100.0%	Pan, fine (LSB)	

DMX mode Standard (36ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
33	Tilt	0	255	0.0%	100.0%	Tilt	46
34		0	255	0.0%	100.0%	Tilt, fine (LSB)	(18.0%)
35	Scan speed	0	255	0.0%	100.0%	Scan speed from slow to fast	0(0%)
36	Special controls	0	9	0.0%	3.5%	No function	0(0%)
		10	19	3.9%	7.5%	Open light after 5 seconds	
		20	29	7.8%	11.4%	Close light after 5 seconds	
		30	39	11.8%	15.3%	Color wheel half color switch	
		40	49	15.7%	19.2%	Color wheel random positioning	
		50	59	19.6%	23.1%	Reserved	
		60	69	23.5%	27.1%	Blade motor reset after 5 seconds	
		70	79	27.5%	31.0%	Reset all motor after 5 seconds	
		80	89	31.4%	34.9%	Scan motor reset after 5 seconds	
		90	99	35.3%	38.8%	All color motor reset after 5 seconds	
		100	109	39.2%	42.7%	All gobo motor reset after 5 seconds	
		110	119	43.1%	46.7%	All strobe reset after 5 seconds	
		120	129	47.1%	50.6%	Other motor reset after 5 seconds	
		130	139	51.0%	54.5%	Built-in program 1	
		140	149	54.9%	58.4%	Built-in program 2	
		150	159	58.8%	62.4%	Built-in program 3	
		160	169	62.7%	66.3%	Built-in program 4	
		170	179	66.7%	70.2%	Built-in program 5	
		180	189	70.6%	74.1%	Built-in program 6	
		190	199	74.5%	78.0%	Built-in program 7	
		200	209	78.4%	82.0%	Built-in program 8	
		210	219	82.4%	85.9%	Built-in program 9	
		220	229	86.3%	89.8%	Built-in program 10	
		230	255	90.2%	100.0%	Reserved	

Basic

DMX mode Basic (33ch)	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	Cyan	0	255	0.0%	100.0%	White → Full cyan	0(0%)
4	Magenta	0	255	0.0%	100.0%	White → Full magenta	0(0%)
5	Yellow	0	255	0.0%	100.0%	White → Full yellow	0(0%)
6	CMY color macro	0	15	0.0%	5.9%	CMY color macro off	0(0%)
		16	135	6.3%	52.9%	CMY synchronous color from slow to fast	
		136	255	53.3%	100.0%	CMY random color from slow to fast	
7	CTO	0	255	0.0%	100.0%	White → Full CTO	0(0%)
8	Color wheel	0	13	0.0%	5.1%	Open	0(0%)
		14	32	5.5%	12.5%	Color 1	
		33	51	12.9%	20.0%	Color 2	
		52	70	20.4%	27.5%	Color 3	
		71	89	27.8%	34.9%	Color 4	
		90	108	35.3%	42.3%	Color 5	
		109	127	42.8%	49.8%	Color 6	
		128	187	50.2%	73.3%	Color continous rotation CW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100%	Color continous rotation CCW from slow to fast	
9	Gobo wheel (static)	0	15	0.0%	5.9%	Open	0(0%)
		16	23	6.3%	9.0%	Gobo 1	
		24	31	9.4%	12.1%	Gobo 2	
		32	39	12.5%	15.3%	Gobo 3	
		40	47	15.7%	18.4%	Gobo 4	
		48	55	18.8%	21.5%	Gobo 5	
		56	63	21.9%	24.7%	Gobo 6	
		64	71	25.1%	27.8%	Gobo 7	
		72	79	28.2%	31.0%	Gobo 1 shake	
		80	87	31.4%	34.1%	Gobo 2 shake	
		88	95	34.5%	37.3%	Gobo 3 shake	

DMX mode Basic (33ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
9	Gobo wheel (static)	96	103	37.7%	40.4%	Gobo 4 shake	0(0%)
		104	111	40.8%	43.5%	Gobo 5 shake	
		112	119	43.9%	46.7%	Gobo 6 shake	
		120	127	47.1%	49.8%	Gobo 7 shake	
		128	187	50.2%	73.3%	Gobo wheel continous rotation CW from slow to fast	
		188	195	73.7%	76.4%	Stop	
		196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
10	Rotating gobo wheel 1	0	13	0.0%	5.1%	Open gobo	0(0%)
		14	23	5.5%	9.0%	Gobo 1	
		24	33	9.4%	12.9%	Gobo 2	
		34	43	13.3%	16.9%	Gobo 3	
		44	53	17.3%	20.8%	Gobo 4	
		54	63	21.2%	24.7%	Gobo 5	
		64	73	25.1%	28.6%	Gobo 6	
		74	82	29.0%	32.2%	Gobo 1 shake	
		83	91	32.5%	35.7%	Gobo 2 shake	
		92	100	36.1%	39.2%	Gobo 3 shake	
		101	109	39.6%	42.8%	Gobo 4 shake	
		110	118	43.1%	46.3%	Gobo 5 shake	
		119	127	46.7%	49.8%	Gobo 6 shake	
		128	187	50.2%	73.3%	Gobo wheel continous rotation CW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
11	Gobo rotating/ positioing gobo wheel 1	0	127	0.0%	49.8%	Gobo rotation/positioning	0(0%)
		128	187	50.2%	73.3%	Gobo continous rotation CCW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo continous rotation CW from slow to fast	
12	Blade 1	0	255	0.0%	100.0%	White →Full Blade 1	0(0%)
13	Blade 2	0	255	0.0%	100.0%	White →Full Blade 2	0(0%)
14	Blade 3	0	255	0.0%	100.0%	White →Full Blade 3	0(0%)
15	Blade 4	0	255	0.0%	100.0%	White →Full Blade 4	0(0%)
16	Blade 5	0	255	0.0%	100.0%	White →Full Blade 5	0(0%)
17	Blade 6	0	255	0.0%	100.0%	White →Full Blade 6	0(0%)
18	Blade 7	0	255	0.0%	100.0%	White →Full Blade 7	0(0%)

DMX mode Basic (33ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
19	Blade 8	0	255	0.0%	100.0%	White →Full Blade 8	0(0%)
20	Framing Rotation	0	255	0.0%	100.0%	Framing Rotation	0(0%)
21	Framing Rotation speed	0	255	0.0%	100.0%	Framing Rotation speed from slow to fast	0(0%)
22	Iris	0	255	0.0%	100.0%	Open → Close	0(0%)
23	Iris macro	0	31	0.0%	12.2%	Off / Open iris	0(0%)
		32	63	12.5%	24.7%	Effect - Synchronous open from slow to fast	
		64	95	25.1%	37.3%	Effect - Synchronous off	
		96	127	37.6%	49.8%	Effect - Random open from slow to fast	
		128	159	50.2%	62.4%	Effect - Random off	
		160	191	62.7%	74.9%	Strobe follow	
		192	255	75.3%	100.0%	Closed iris	
24	Focus	0	255	0.0%	100.0%	Near → Far	0(0%)
25	Zoom	0	255	0.0%	100.0%	Narrow → Wide	0(0%)
26	Prism	0	31	0.0%	12.2%	Off	0(0%)
		32	255	12.5%	100.0%	On	
27	Prism rotation	0	127	0.0%	49.8%	Prism rotation/positioning	0(0%)
		128	187	50.2%	73.3%	Prism continous rotation CW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Prism continous rotation CCW from slow to fast	
28	Frost	0	31	0.0%	12.2%	Off	0(0%)
		32	255	12.5%	100.0%	On	
29	Effect wheel (Fire)	0	31	0.0%	12.2%	Off	0(0%)
		32	127	12.6%	49.8%	Effect wheel random position	
		128	255	50.2%	100.0%	Effect wheel rotation from slow to fast	
30	Pan	0	255	0.0%	100.0%	Pan	0(0%)
31	Tilt	0	255	0.0%	100.0%	Tilt	46 (18.0%)
32	Scan speed	0	255	0.0%	100.0%	Scan speed from slow to fast	0(0%)
33	Special controls	0	9	0.0%	3.5%	No function	0(0%)
		10	19	3.9%	7.5%	Open light after 5 seconds	
		20	29	7.8%	11.4%	Close light after 5 seconds	
		30	39	11.8%	15.3%	Color wheel half color switch	
		40	49	15.7%	19.2%	Color wheel random positioning	

DMX mode Basic (33ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
33	Special controls	50	59	19.6%	23.1%	Reserved	0(0%)
		60	69	23.5%	27.1%	Blade motor reset after 5 seconds	
		70	79	27.5%	31.0%	Reset all motor after 5 seconds	
		80	89	31.4%	34.9%	Scan motor reset after 5 seconds	
		90	99	35.3%	38.8%	All color motor reset after 5 seconds	
		100	109	39.2%	42.7%	All gobo motor reset after 5 seconds	
		110	119	43.1%	46.7%	All strobe reset after 5 seconds	
		120	129	47.1%	50.6%	Other motor reset after 5 seconds	
		130	139	51.0%	54.5%	Built-in program 1	
		140	149	54.9%	58.4%	Built-in program 2	
		150	159	58.8%	62.4%	Built-in program 3	
		160	169	62.7%	66.3%	Built-in program 4	
		170	179	66.7%	70.2%	Built-in program 5	
		180	189	70.6%	74.1%	Built-in program 6	
		190	199	74.5%	78.0%	Built-in program 7	
		200	209	78.4%	82.0%	Built-in program 8	
		210	219	82.4%	85.9%	Built-in program 9	
		220	229	86.3%	89.8%	Built-in program 10	
		230	255	90.2%	100.0%	Reserved	

Extended

DMX mode Extended (52ch)	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	255	0.0%	100.0%	Intensity fade, fine (LSB)	
4	Cyan	0	255	0.0%	100.0%	White → Full cyan	0(0%)
5		0	255	0.0%	100.0%	Cyan fade, fine (LSB)	
6	Magenta	0	255	0.0%	100.0%	White → Full magenta	0(0%)
7		0	255	0.0%	100.0%	Magenta fade, fine (LSB)	
8	Yellow	0	255	0.0%	100.0%	White → Full yellow	0(0%)
9		0	255	0.0%	100.0%	Yellow fade, fine (LSB)	
10	CMY color macro	0	15	0.0%	5.9%	CMY color macro off	0(0%)
		16	135	6.3%	52.9%	CMY synchronous color from slow to fast	
		136	255	53.3%	100.0%	CMY random color from slow to fast	
11	CTO	0	99	0.0%	38.8%	White → Full CTO	0(0%)
12		0	255	0.0%	100.0%	CTO fade, fine (LSB)	0(0%)
13	Color wheel	0	10	0.0%	3.9%	Open	0(0%)
		11	23	4.3%	9.0%	Color 1	
		24	36	9.4%	14.1%	Color 2	
		0	13	0.0%	5.1%	Open	
		14	32	5.5%	12.5%	Color 1	
		33	51	12.9%	20.0%	Color 2	
		52	70	20.4%	27.5%	Color 3	
		71	89	27.8%	34.9%	Color 4	
		90	108	35.3%	42.3%	Color 5	
		109	127	42.8%	49.8%	Color 6	
		128	187	50.2%	73.3%	Color continous rotation CW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100%	Color continous rotation CCW from slow to fast	
14	Gobo wheel (static)	0	15	0.0%	5.9%	Open	0(0%)
		16	23	6.3%	9.0%	Gobo 1	
		24	31	9.4%	12.2%	Gobo 2	

DMX mode Extended (52ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
14	Gobo wheel (static)	32	39	12.5%	15.3%	Gobo 3	0(0%)
		40	47	15.7%	18.4%	Gobo 4	
		48	55	18.8%	21.5%	Gobo 5	
		56	63	21.9%	24.7%	Gobo 6	
		64	71	25.1%	27.8%	Gobo 7	
		72	79	28.2%	31.0%	Gobo 1 shake	
		80	87	31.4%	34.1%	Gobo 2 shake	
		88	95	34.5%	37.3%	Gobo 3 shake	
		96	103	37.7%	40.4%	Gobo 4 shake	
		104	111	40.8%	43.5%	Gobo 5 shake	
		112	119	43.9%	46.7%	Gobo 6 shake	
		120	127	47.1%	49.8%	Gobo 7 shake	
		128	187	50.2%	73.3%	Gobo wheel continous rotation CW from slow to fast	
		188	195	73.7%	76.4%	Stop	
		196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
15	Rotating gobo wheel	0	13	0.0%	5.1%	Open gobo	0(0%)
		14	23	5.5%	9.0%	Gobo 1	
		24	33	9.4%	12.9%	Gobo 2	
		34	43	13.3%	16.9%	Gobo 3	
		44	53	17.3%	20.8%	Gobo 4	
		54	63	21.2%	24.7%	Gobo 5	
		64	73	25.1%	28.6%	Gobo 6	
		74	82	29.0%	32.2%	Gobo 1 shake	
		83	91	32.5%	35.7%	Gobo 2 shake	
		92	100	36.1%	39.2%	Gobo 3 shake	
		101	109	39.6%	42.8%	Gobo 4 shake	
		110	118	43.1%	46.3%	Gobo 5 shake	
		119	127	46.7%	49.8%	Gobo 6 shake	
		128	187	50.2%	73.3%	Gobo wheel continous rotation CW from slow to fast	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
16	Gobo rotating/ positioning gobo wheel 1	0	127	0.0%	49.8%	Gobo rotation/positioning	0(0%)
		128	187	50.2%	73.3%	Gobo continous rotation CCW from slow to fast	0(0%)
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo continous rotation CW from slow to fast	

DMX mode Extended (52ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
17	Gobo rotation/ position	0	255	0.0%	100.0%	Gobo rotation/positioning, fine (LSB)	0(0%)
18	Blade 1	0	255	0.0%	100.0%	White → Full Blade up 1	0(0%)
19		0	255	0.0%	100.0%	Full Blade up 1, fine (LSB)	
20	Blade 2	0	255	0.0%	100.0%	White → Full Blade up 2	0(0%)
21		0	255	0.0%	100.0%	Full Blade up 2, fine (LSB)	
22	Blade 3	0	255	0.0%	100.0%	White → Full Blade down 1	0(0%)
23		0	255	0.0%	100.0%	Full Blade down 1, fine (LSB)	
24	Blade 4	0	255	0.0%	100.0%	White → Full Blade down 2	0(0%)
25		0	255	0.0%	100.0%	Full Blade down 2, fine (LSB)	
26	Blade 5	0	255	0.0%	100.0%	White → Full Blade left 1	0(0%)
27		0	255	0.0%	100.0%	Full Blade left 1, fine (LSB)	
28	Blade 6	0	255	0.0%	100.0%	White → Full Blade left 2	0(0%)
29		0	255	0.0%	100.0%	Full Blade left 2, fine (LSB)	
30	Blade 7	0	255	0.0%	100.0%	White → Full Blade right 1	0(0%)
31		0	255	0.0%	100.0%	Full Blade right 1, fine (LSB)	
32	Blade 8	0	255	0.0%	100.0%	White → Full Blade right 2	0(0%)
33		0	255	0.0%	100.0%	Full Blade right 2, fine (LSB)	
34	Framing Rotation	0	255	0.0%	100.0%	Framing Rotation	0(0%)
35		0	255	0.0%	100.0%	Framing Rotation fine (LSB)	
36	Framing Rotation speed	0	255	0.0%	100.0%	Framing Rotation speed from slow to fast	0(0%)
37	Iris	0	255	0.0%	100.0%	Open → Close	0(0%)
38	Iris macro	0	31	0.0%	12.2%	Off / Open iris	0(0%)
		32	63	12.5%	24.7%	Effect - Synchronous open from slow to fast	
		64	95	25.1%	37.3%	Effect - Synchronous off	
		96	127	37.6%	49.8%	Effect - Random open from slow to fast	0(0%)
		128	159	50.2%	62.4%	Effect - Random off	
		160	191	62.7%	74.9%	Strobe follow	
		192	255	75.3%	100.0%	Closed iris	
39	Focus	0	255	0.0%	100.0%	Near → Far	0(0%)
40		0	65535	0.0%	100.0%	Focus, fine (LSB)	
41	Zoom	0	255	0.0%	100.0%	Narrow → Wide	0(0%)
42		0	65535	0.0%	100.0%	Zoom, fine (LSB)	
43	Prism	0	31	0.0%	12.2%	Off	0(0%)
		32	255	12.5%	100.0%	On	
44		0	127	0.0%	49.8%	Prism rotation/positioning	0(0%)

DMX mode Extended (52ch)	Name	DMX value		DMX percentage		Function	Default DMX Value
44	Prism rotation	128	187	50.2%	73.3%	Prism continous rotation CW from slow to fast	0(0%)
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Prism continous rotation CCW from slow to fast	
45	Frost	0	31	0.0%	12.2%	Off	0(0%)
		32	255	12.5%	100.0%	On	
46	Effect wheel (Fire)	0	127	0.0%	49.8%	Effect wheel rotation/positioning	0(0%)
		128	255	50.2%	100.0%	Effect wheel continous rotation from slow to fast	
47	Pan	0	255	0.0%	100.0%	Pan	0(0%)
48		0	65535	0.0%	100.0%	Pan, fine (LSB)	
49	Tilt	0	255	0.0%	100.0%	Tilt	46 (18.0%)
50		0	65535	0.0%	100.0%	Tilt, fine (LSB)	
51	Scan speed	0	255	0.0%	100.0%	Scan speed from slow to fast	0(0%)
52	Special controls	0	9	0.0%	3.5%	No function	
		10	19	3.9%	7.5%	Open light after 5 seconds	0(0%)
		20	29	7.8%	11.4%	Close light after 5 seconds	
		30	39	11.8%	15.3%	Color wheel half color switch	
		40	49	15.7%	19.2%	Color wheel random positioning	
		50	59	19.6%	23.1%	Reserved	
		60	69	23.5%	27.1%	Blade motor reset after 5 seconds	
		70	79	27.5%	31.0%	Reset all motor after 5 seconds	
		80	89	31.4%	34.9%	Scan motor reset after 5 seconds	
		90	99	35.3%	38.8%	All color motor reset after 5 seconds	
		100	109	39.2%	42.7%	All gobo motor reset after 5 seconds	
		110	119	43.1%	46.7%	All strobe reset after 5 seconds	
		120	129	47.1%	50.6%	Other motor reset after 5 seconds	
		130	139	51.0%	54.5%	Built-in program 1	
		140	149	54.9%	58.4%	Built-in program 2	
		150	159	58.8%	62.4%	Built-in program 3	
		160	169	62.7%	66.3%	Built-in program 4	
		170	179	66.7%	70.2%	Built-in program 5	
		180	189	70.6%	74.1%	Built-in program 6	
		190	199	74.5%	78.0%	Built-in program 7	
		200	209	78.4%	82.0%	Built-in program 8	
		210	219	82.4%	85.9%	Built-in program 9	
		220	229	86.3%	89.8%	Built-in program 10	
		230	255	90.2%	100.0%	Reserved	

11. System wiring diagram
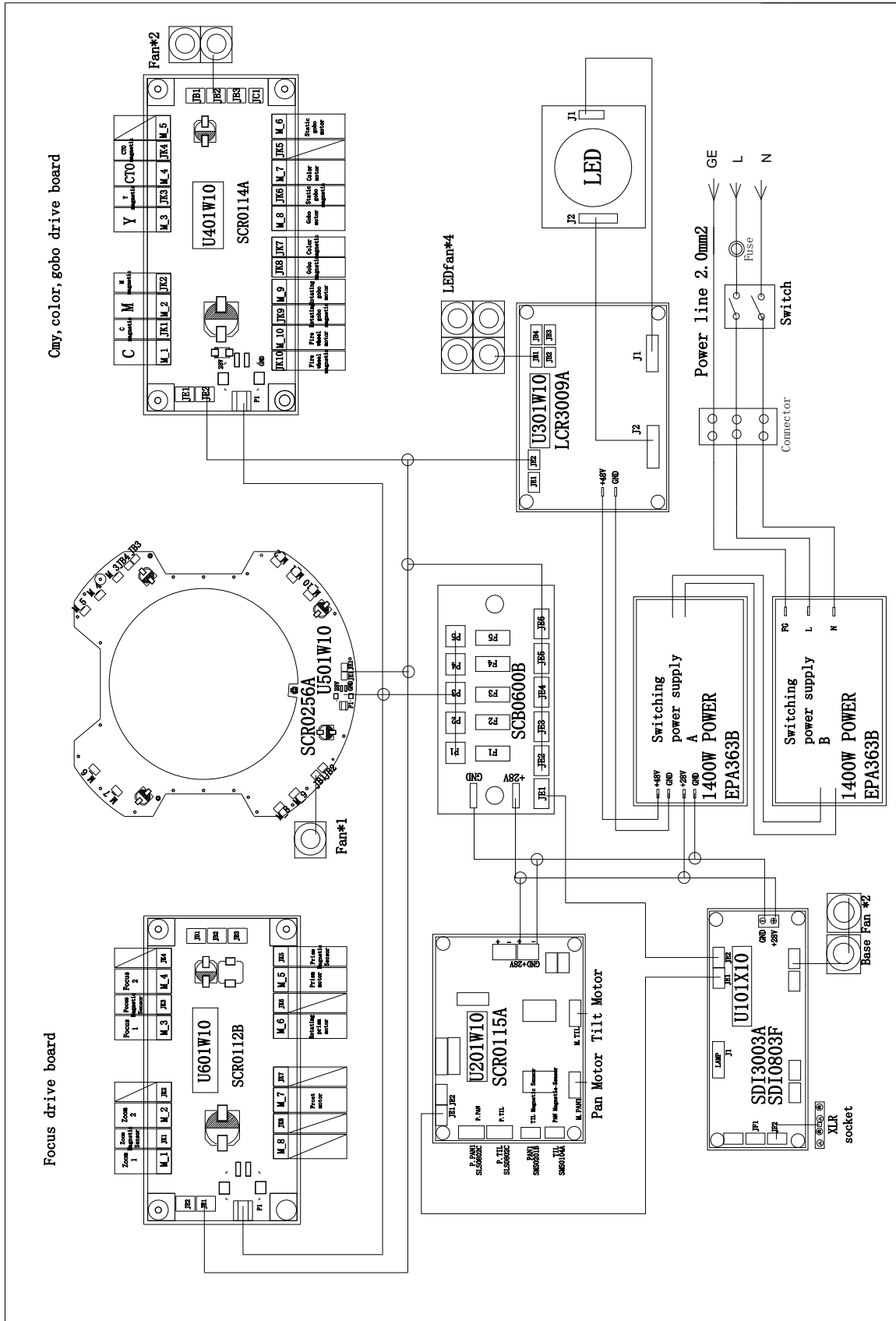
12. Maintenance and Troubleshooting

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 are placement 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

Problem	Possible Cause	Suggested Correction
		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 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

Problem	Possible Cause	Suggested Correction
		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
	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

Problem	Possible Cause	Suggested Correction
		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.
	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
Light source	1306050539A	1	SP_SCL0901-75-R70-000
display panel	5809010621A	1	101X11 3003A-4/0803F-1
Scanning plate	5809010622A	1	201W11 SCR0115A/0115A-3
drive board	5809010623A	1	501W11 SCR0256A /0256A-2
LED drive board	5809210256A	1	301W11 LCR3009A/LED/3009A-2

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