GTD-F10 II PROFILE

User Manual

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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.
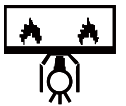
Only to direct mounting on non-combustible surfaces.

Replace all cracked glass shields.

m| Minimum distance to lighted objects.

ta...°C Maximum ambient temperature.

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

General guidelines ⚠

- This product has a protection rating of IP66.

- Never open this fixture while 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 16.4feet (5m).

- Maximum temp of the external surface 194˚F (90˚C).

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

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

- Lamp should be changed if damaged or distorted in shape due to extreme heat.

- Cover, prism or OLED 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. Check 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.

- Broken or damaged cables and light source can only be fixed or changed by certified technicians, certified local distributors or the manufacturer to ensure operational safety.

- 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 +8620 61808296.

2. Production instructions

2.1 Dimension

2.2 Fixture overview

Head module

Prism module

Cutting module

Framing blade system

CMY

Heat module

Pan-tilt frame

Base module
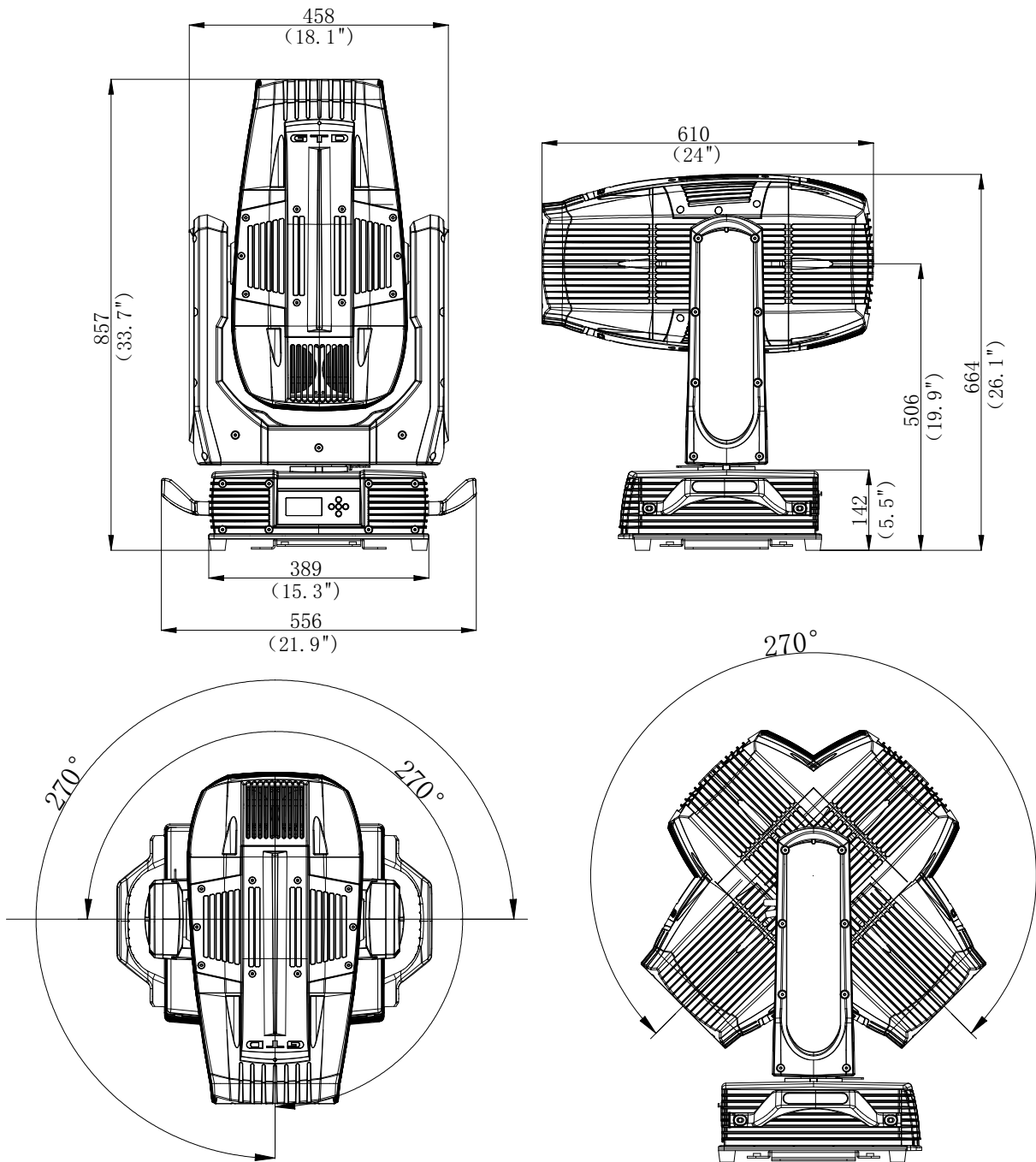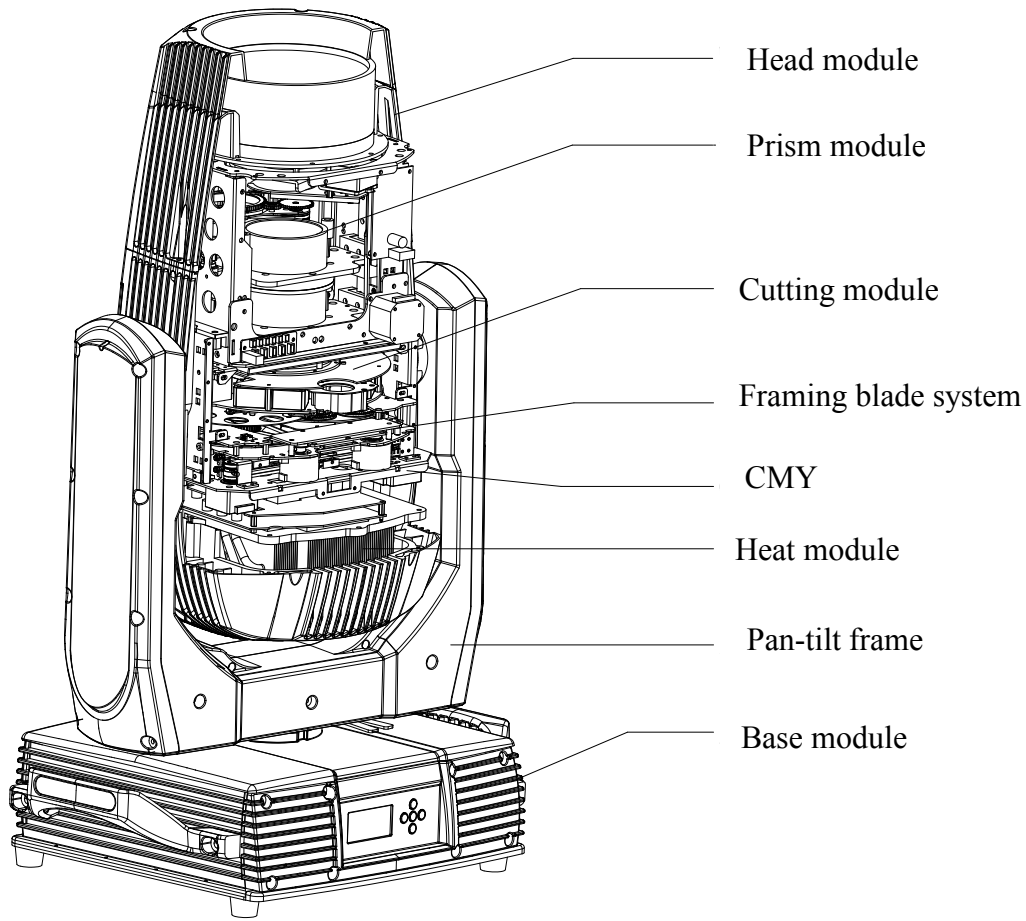
2.3 Accessories

Item	Qty	Unit	Remark
User Manual	1	Pc	--
Clamps	2	Set	02A+21A 42-52mm Load weight 200KG
Safety cable	2	Pc	Φ5*60cm 7*19 pc with hook Material：Steel
3-pins signal line	1	Pc	
Power cable	1	Pc	

3. Packing and shipping

3.1 Protection lock

Pan and tilt locks are equipped to ensure safe transportation.

PAN: 4 lock positions are located evenly on the Pan.

TILT: 7 lock positions are located on left and right side of the Tilt with the third one in the center.
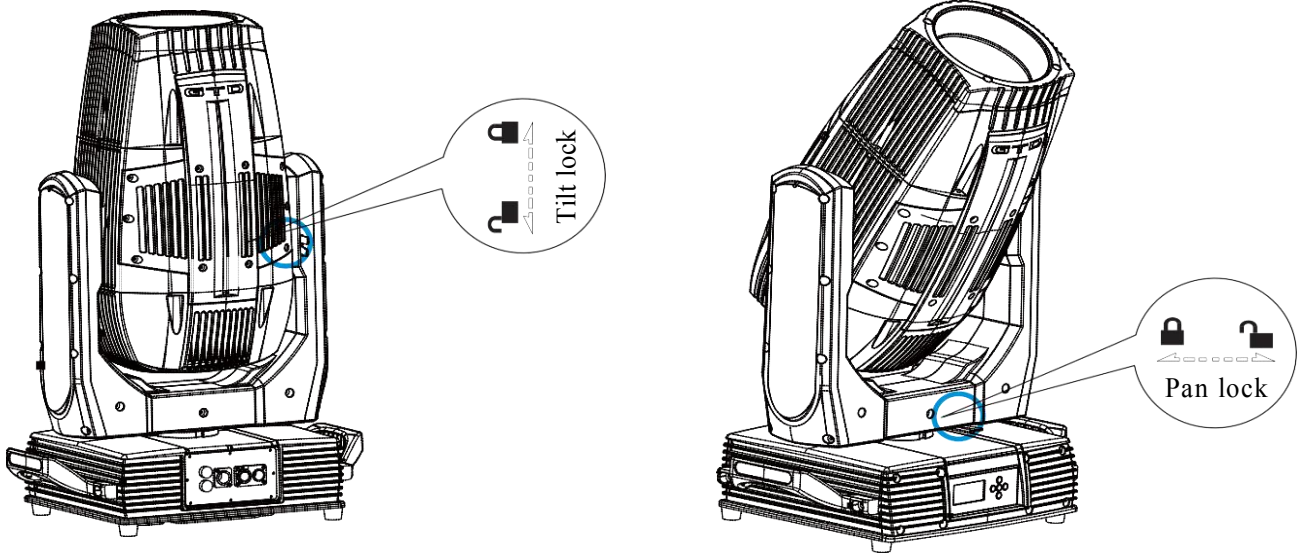
3.2 Unpacking

⚠ **Notes**

All products are quality controlled and checked for any faults before they are 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： Open the cover of the flight-case and remove the plastic packing bags. Hold the handles of the fixture firmly and take it out carefully.

Cardboard box： Open the box and take out the whole set of packaging foam which contains 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 unlocked 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. Hold it by the handles, and then carefully place it inside the flight case along with all the accessories. Close the cover. Only 3 layers are allowed when piling up the flight cases. 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 carefully put it inside the cardboard box.

4. Installation

4.1 Clamps installation

The fixture can be placed on the stage or mounted on the truss facing 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 and tilt are unlocked before connecting the unit to AC power.
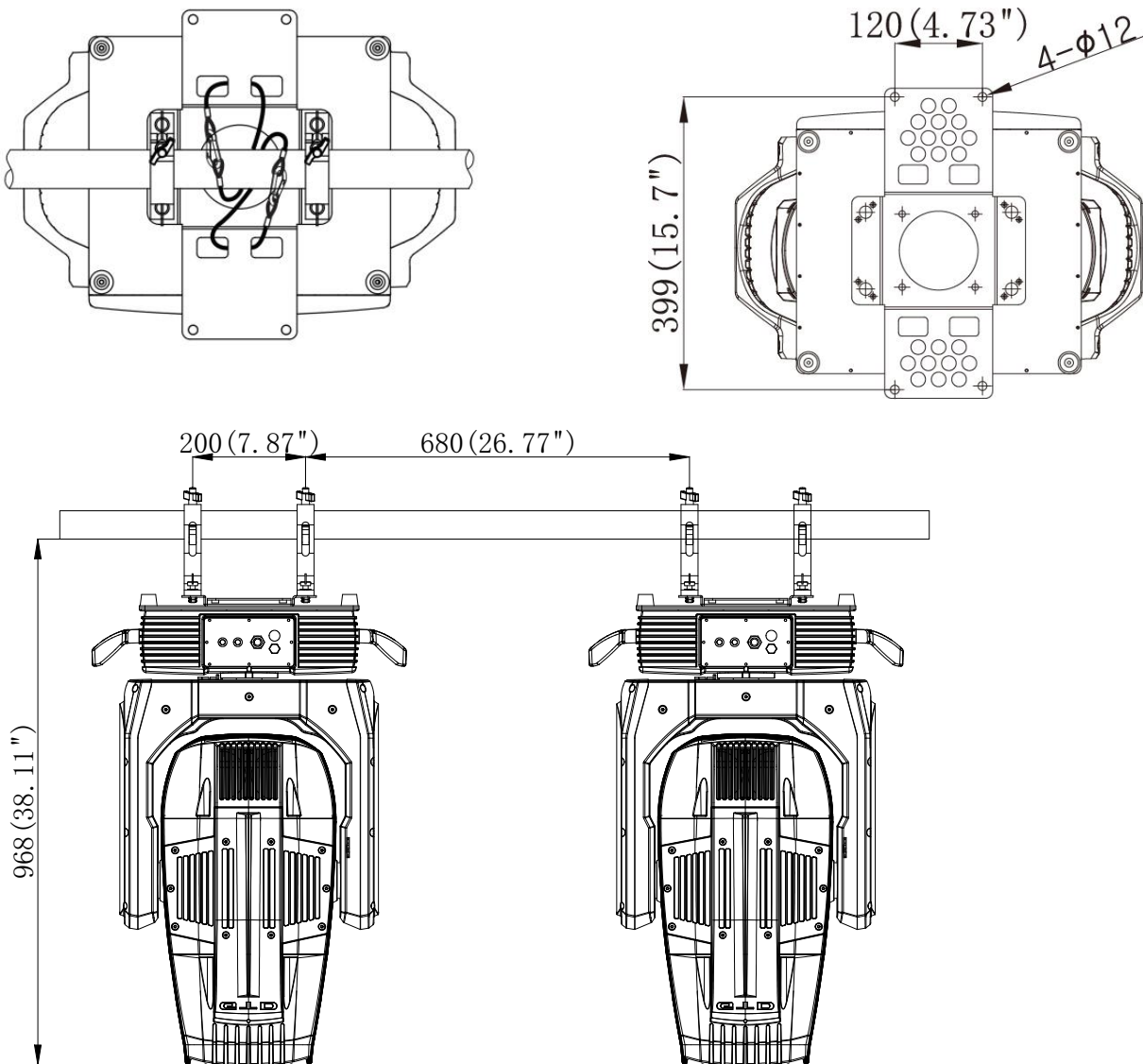
5. Power/ Control connection

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 .

DMX 512

1: Ground
2: —
3: +
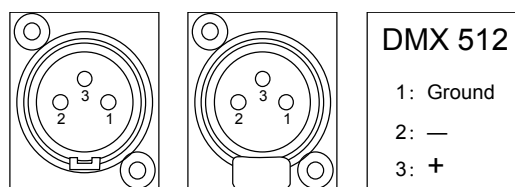
Connect the Console's DMX OUTPUT to the first fixture's DMX INPUT, then the first fixture's DMX OUTPUT to the second fixture's DMX INPUT and so on. It is recommended not to connect more than 32 units on a single DMX universe. On the last fixture's output connect a DMX terminator. (The terminator is a 3-pin XLR connector with a 1/4W and 120Ω resistor between the pin 2 and pin 3) as shown below:

Console

Output Input

Output Input

Output Input

DMX terminator
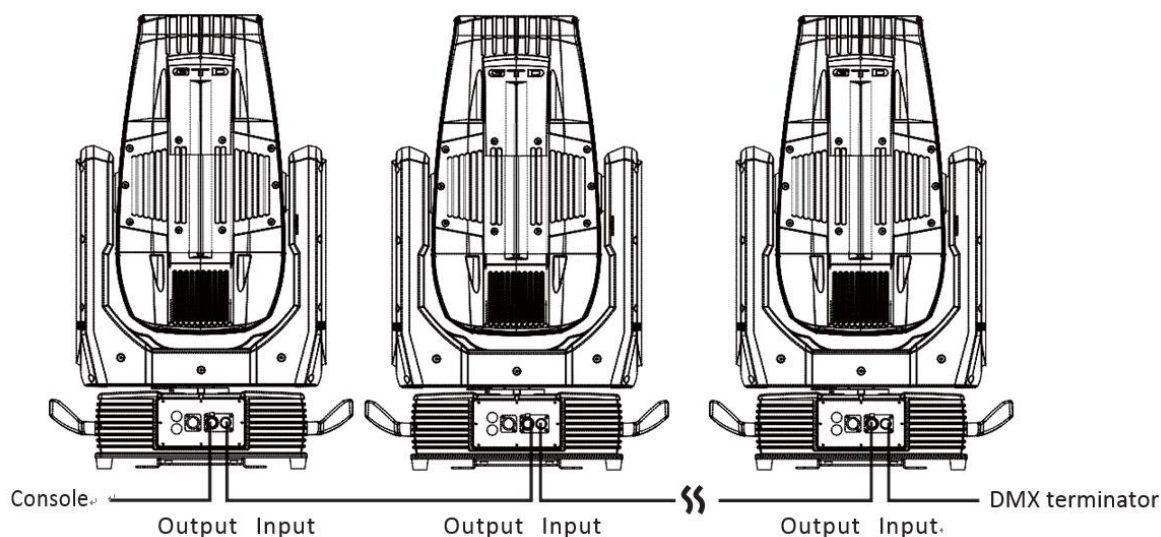
5.3 Testing

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
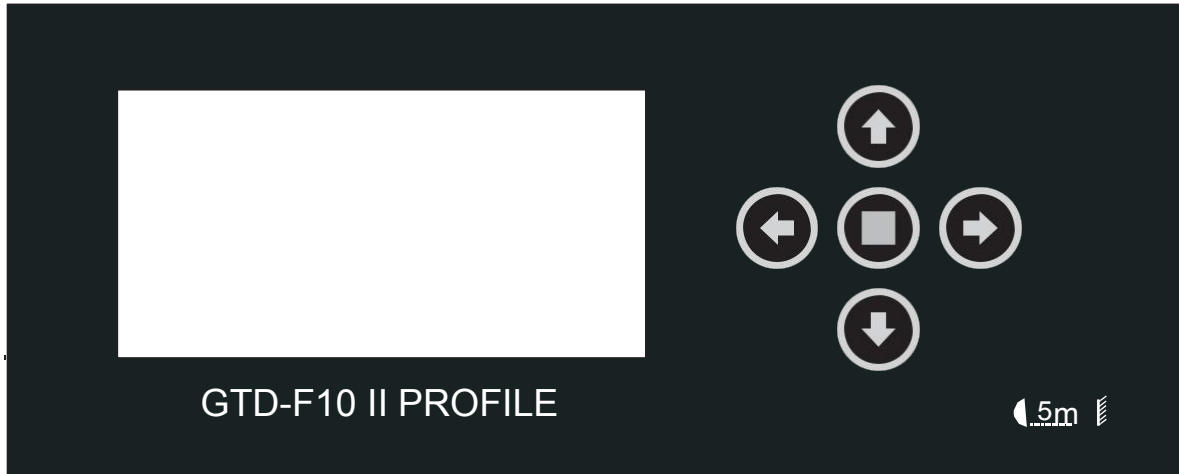
- The control panel features touch-sensitive buttons and OLED digital display for quick and easy setup of address code and functions menu.

- Press the left key to enter the menu, press again to exit the menu, press the up and down keys to select the menu setting item, and press the right key to confirm the setting item. Press the up and down keys to adjust the value of the setting item, then press the right key to confirm, and press the left key to exit the menu setting item successively until exiting the menu.

- Press up and down to set the address, left to exit, right to confirm.

- Middle key (reserved).

- Key Panel Indicator Diagram：
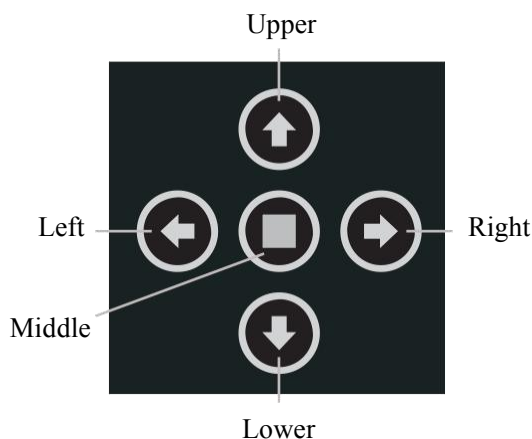
7. Technical specification

- **Optical**

  Light source: LED 1000W

  Expected average lifetime: 20000 h

  Color temperature correction: 6500K

  Total luminous flux: 40000Lm

  Color rendering index: ≥70Ra

  Zoom: 5° -50°

  Spot uniformity：≥80%

  Focus: multi-point focus, focus from 5 meters to infinity tracking

  Prism: 1-facet prism，CW/CCW rotation, variable speed

  Frost: 1-independent frost effect

- **Gobo**

  Rotating gobo wheel: 6 interchangeable gobos, CW/CCW rotation, variable speed

  Fixed gobo wheel: 7 gobos + open，CW/CCW rotation, variable speed

  Gobo outside diameter: 27mm

  Max. Image diameter: 22mm

  Max. Thickness: 3.5mm

  Gobo material: Glass

- **Color**

  CTO: 6500K-2700K

  C、M、Y: linear infinity color mixing

  Color wheel: 6 colors + open, split color, CW/C CW rotation, "Rainbow effect" in both directions

- **Electrical**

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

  Max. Power consumption: 1170W, max current: 11.74A, PF: ≥0.99

  Power supply unit: Wide Voltage switching power supply

  Main fuse: 250V/15A

  Power input: NEUTRIK socket (input/output)

  DMX data input/output: Chassis 3-pin XLR waterproof socket

- **Control and programming**

  Control channels (DMX): 36/33/52

  Protocol: DMX-512 RDM

  Display: OLED

- **Physical / Installation**

  Weight: 55Kg (121.25lbs.)

IP rating: IP66

Material: Aluminum, steel, plastic, iron, copper

Mounting points: Four quarter-turn locking points + attachment points for safety wire

- **Dynamic effects**

Pan/Tilt movement: 540˚/270˚

Iris: Motorized adjustable iris, wide range of variable pulse effects

Strobe: 1-25Hz, synchronized, pulse effects

Dimmer: 0-100%, mechanical dimming

- **Thermal**

Startup range: -13˚F to 113˚F (-25˚C to 45˚C)

Storage range: -40˚F to 140˚F (-40˚C to 60˚C)

Cooling: Active fan

- **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)

5°	128000	32300	14500	8050
50°	4530	1600	710	419

Distance(m)	0	5	10	15	20
5° Beam distance		⌀ 0.48	⌀ 0.96	⌀ 1.44	⌀ 1.92
50° Beam distance		⌀ 4.87	⌀ 9.76	⌀ 14.92	⌀ 19.81
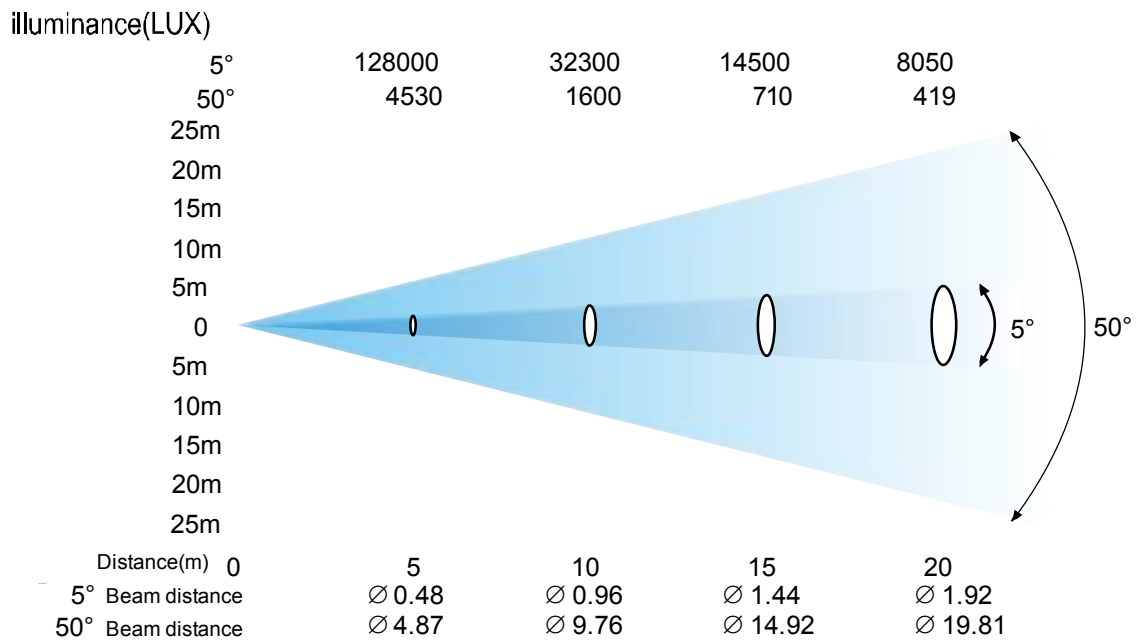
- **Other features**

➢ 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 remotely activate sleep mode. 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 OLED interface without power connection.

➢ Communication: DMX wired transmission, RDM two way control technology, upgrade software easily with DMX cable.

➢ Dissipate heat: With wind direction drainage and temperature intelligent momitoring technology, it can automatically adjust the heat dissipation system and effectively control the bulb temperature according to the start, use, close and other states of the lamp, and the temperature of different positions of the lamp.

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	3.5mm
Gobo material: Glass			

8.2 Gobos

One rotating gobo wheel: 6 interchangeable gobos + open, indexing, CW/CCW rotation, variable speed

One fixed gobo wheel: 7 gobos + open, CW/CCW rotation, variable speed
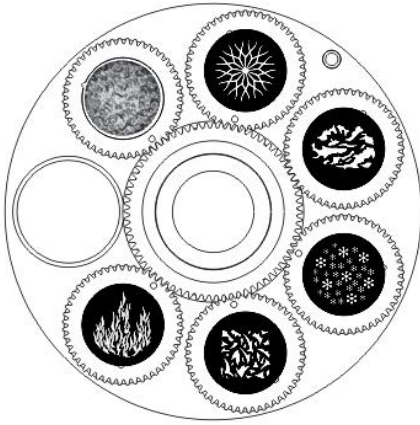
Rotating gobo wheel
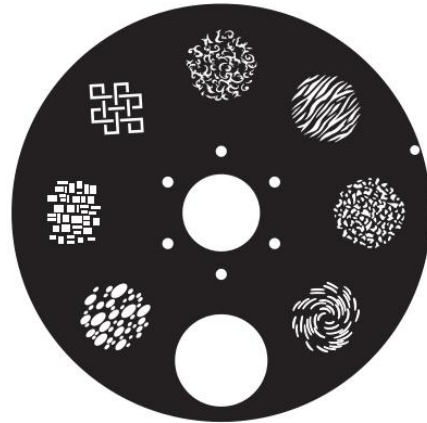
Fixed gobo wheel
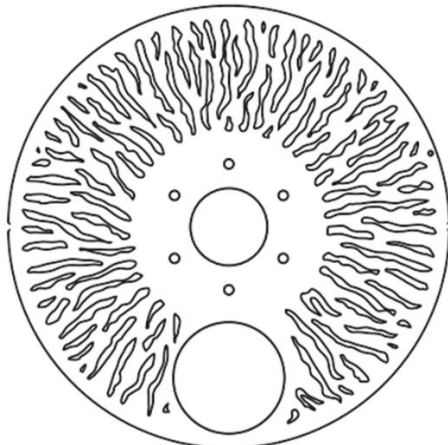
Effect wheel

8.3 Colors

One color wheel: 6 colors + open, split color, CW/CCW rotation, "Rainbow effect" in both directions
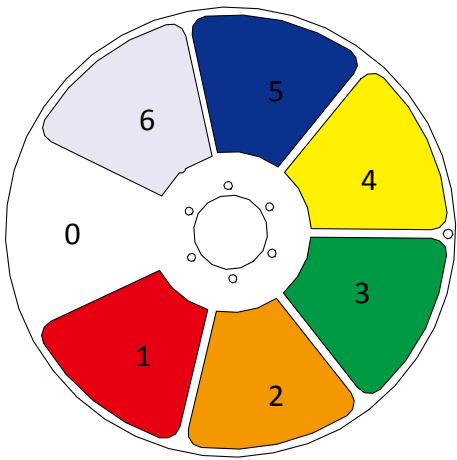
0: Open

1: Red

2: Orange

3: Green

4: Yellow

5: Blue

6:CRI

CYAN

YELLOW

MAGENTA

CTO
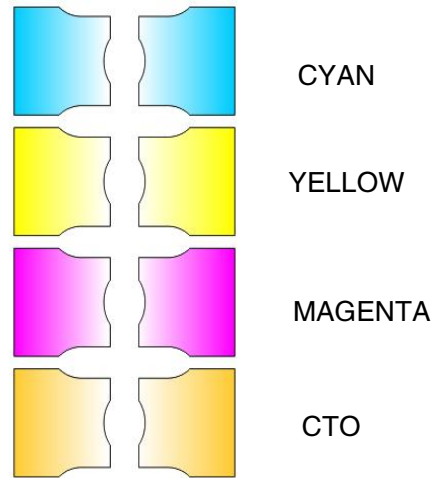
Cutting effect
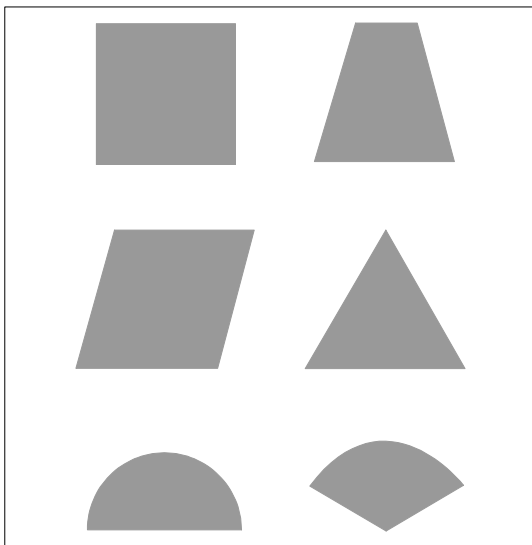
9.Menu structure

Level 1	Level 2	Level 3	Level 4	Info
Run setting	Address Setting Value Display Auto-Program	Address: 001~ XXX Pan ……，All，Off Master /Slave		Setting the DMX address Display the channel value Run auto program in master or slave
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(XX) Yes/No Password: XXX(XXX) 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	1~80 Min/Disable Enable/Disable 15~100% 80% Chinese/English	Backlight off time Press <menu> 3s to unlock Back lightness of screen Change the language

		Screen auto	off/on/auto	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
	Product Select	- Password-	GTD xxx xxx xxx	Product Name Select
Reset	System Reset Scan Reset ColorReset Gobo Reset Other Reset			System reset Pan and tilt motor reset Color motor reset All gobo motor 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(XX) Pan=XXX :	The password of adjust mode Fixed all begin position
	Focus Mode	Input Password Pan :	Password=XXX(XX) 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	Select Prog.	Program Unit 1	Program 1 ~10	Choose build-in program for

Edit		Program Unit 2	Program 1 ~ 10	slave 1
		Program Unit 3	Program 1 ~ 10	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

⚠ Note：Settings hightlighted 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 cyan	0(0%)
8	Color wheel	0	19	0.0%	7.5%	Open	0(0%)
		20	37	7.8%	14.5%	Color 1	
		38	55	14.9%	21.6%	Color 2	
		56	73	22.0%	28.6%	Color 3	
		74	91	29.0%	35.7%	Color 4	
		92	109	36.1%	42.7%	Color 5	
		110	127	43.1%	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%	100.0%	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%	12.2%	Gobo 2	
		32	39	12.5%	15.3%	Gobo 3	
		40	47	15.7%	18.4%	Gobo 4	
		48	55	18.8%	21.6%	Gobo 5	
		56	63	22.0%	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	37.6%	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%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
10	Rotating gobo wheel 1	0	7	0.0%	2.7%	Open gobo	0(0%)
		8	17	3.1%	6.7%	Gobo 1	
		18	27	7.1%	10.6%	Gobo 2	
		28	37	11.0%	14.5%	Gobo 3	
		38	47	14.9%	18.4%	Gobo 4	
		48	57	18.8%	22.4%	Gobo 5	
		58	67	22.7%	26.3%	Gobo 6	
		68	77	26.7%	30.2%	Gobo 1 shake	

		78	87	30.6%	34.1%	Gobo 2 shake	
		88	97	34.5%	38.0%	Gobo 3 shake	
		98	107	38.4%	42.0%	Gobo 4 shake	
		108	117	42.4%	45.9%	Gobo 5 shake	
		118	127	46.3%	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 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		0	65535	0.0%	100.0%	Gobo rotation/positioning, fine (LSB)	
13	Blade 1	0	255	0.0%	100.0%	White ➔ Full Blade 1	0(0%)
		0	65535	0.0%	100.0%	Full Blade 1, fine (LSB)	
14	Blade 2	0	255	0.0%	100.0%	White ➔ Full Blade 2	0(0%)
		0	65535	0.0%	100.0%	Full Blade 2, fine (LSB)	
15	Blade 3	0	255	0.0%	100.0%	White ➔ Full Blade 3	0(0%)
		0	65535	0.0%	100.0%	Full Blade 3, fine (LSB)	
16	Blade 4	0	255	0.0%	100.0%	White ➔ Full Blade 4	0(0%)
		0	65535	0.0%	100.0%	Full Blade 4, fine (LSB)	
17	Blade 5	0	255	0.0%	100.0%	White ➔ Full Blade 5	0(0%)
		0	65535	0.0%	100.0%	Full Blade 5, fine (LSB)	
18	Blade 6	0	255	0.0%	100.0%	White ➔ Full Blade 6	0(0%)
		0	65535	0.0%	100.0%	Full Blade 6, fine (LSB)	
19	Blade 7	0	255	0.0%	100.0%	White ➔ Full Blade 7	0(0%)
		0	65535	0.0%	100.0%	Full Blade 7, fine (LSB)	

20	Blade 8	0	255	0.0%	100.0%	White → Full Blade 8	0(0%)
		0	65535	0.0%	100.0%	Full Blade 8, fine (LSB)	
21	Framing Rotation	0	255	0.0%	100.0%	Framing Rotation	0(0%)
		0	65535	0.0%	100.0%	Framing Rotation fine (LSB)	
22	Framing Rotation speed	0	255	0.0%	100.0%	Framing Rotation speed from slow to fast	0(0%)
23	Iris	0	255	0.0%	100.0%	Open → Close	0(0%)
24	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	
25	Effect wheel rotation (Fire)	0	127	0.0%	49.8%	Effect wheel rotation/positioning	0(0%)
		128	255	50.2%	100.0%	Continous rotation from slow to fast	
26	Focus	0	255	0.0%	100.0%	Near → Far	0(0%)
27	Zoom	0	255	0.0%	100.0%	Narrow → Wide	0(0%)
28	Prism	0	31	0.0%	12.2%	Off	0(0%)
		32	255	12.5%	100.0%	On	
29	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	
30	Frost	0	31	0.0%	12.2%	Off	0(0%)
		32	255	12.5%	100.0%	On	

31	Pan	0	255	0.0%	100.0%	Pan	0(0%)
32		0	65535	0.0%	100.0%	Pan, fine (LSB)	
33	Tilt	0	255	0.0%	100.0%	Tilt	46(18.0%)
34		0	65535	0.0%	100.0%	Tilt, fine (LSB)	
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%	No function	
		20	29	7.8%	11.4%	No function	
		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%	Reset all motor after 5 seconds	
		70	79	27.5%	31.0%	All color motor reset after 5 seconds	
		80	89	31.4%	34.9%	All gobo motor reset after 5 seconds	
		90	99	35.3%	38.8%	All strobe reset after 5 seconds	
		100	109	39.2%	42.7%	Blade motor reset after 5 seconds	
		110	119	43.1%	46.7%	Other motor reset after 5 seconds	
		120	129	47.1%	50.6%	No function	
		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 cyan	0(0%)
8	Color wheel	0	19	0.0%	7.5%	Open	0(0%)
		20	37	7.8%	14.5%	Color 1	
		38	55	14.9%	21.6%	Color 2	
		56	73	22.0%	28.6%	Color 3	
		74	91	29.0%	35.7%	Color 4	
		92	109	36.1%	42.7%	Color 5	
		110	127	43.1%	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%	100.0%	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%	12.2%	Gobo 2	
		32	39	12.5%	15.3%	Gobo 3	
		40	47	15.7%	18.4%	Gobo 4	
		48	55	18.8%	21.6%	Gobo 5	
		56	63	22.0%	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	37.6%	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%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
10	Rotating gobo wheel 1	0	7	0.0%	2.7%	Open gobo	0(0%)
		8	17	3.1%	6.7%	Gobo 1	
		18	27	7.1%	10.6%	Gobo 2	
		28	37	11.0%	14.5%	Gobo 3	
		38	47	14.9%	18.4%	Gobo 4	
		48	57	18.8%	22.4%	Gobo 5	
		58	67	22.7%	26.3%	Gobo 6	
		68	77	26.7%	30.2%	Gobo 1 shake	
		78	87	30.6%	34.1%	Gobo 2 shake	

		88	97	34.5%	38.0%	Gobo 3 shake	
		98	107	38.4%	42.0%	Gobo 4 shake	
		108	117	42.4%	45.9%	Gobo 5 shake	
		118	127	46.3%	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/p ositioning 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%)
		0	65535	0.0%	100.0%	Full Blade 1, fine (LSB)	
13	Blade 2	0	255	0.0%	100.0%	White ➔ Full Blade 2	0(0%)
		0	65535	0.0%	100.0%	Full Blade 2, fine (LSB)	
14	Blade 3	0	255	0.0%	100.0%	White ➔ Full Blade 3	0(0%)
		0	65535	0.0%	100.0%	Full Blade 3, fine (LSB)	
15	Blade 4	0	255	0.0%	100.0%	White ➔ Full Blade 4	0(0%)
		0	65535	0.0%	100.0%	Full Blade 4, fine (LSB)	
16	Blade 5	0	255	0.0%	100.0%	White ➔ Full Blade 5	0(0%)
		0	65535	0.0%	100.0%	Full Blade 5, fine (LSB)	
17	Blade 6	0	255	0.0%	100.0%	White ➔ Full Blade 6	0(0%)
		0	65535	0.0%	100.0%	Full Blade 6, fine (LSB)	
18	Blade 7	0	255	0.0%	100.0%	White ➔ Full Blade 7	0(0%)
		0	65535	0.0%	100.0%	Full Blade 7, fine (LSB)	
19	Blade 8	0	255	0.0%	100.0%	White ➔ Full Blade 8	0(0%)
		0	65535	0.0%	100.0%	Full Blade 8, fine (LSB)	

20	Framing Rotation	0	255	0.0%	100.0%	Framing Rotation	0(0%)
		0	65535	0.0%	100.0%	Framing Rotation fine (LSB)	
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	Effect wheel rotation (Fire)	0	127	0.0%	49.8%	Effect wheel rotation/positioning	0(0%)
		128	255	50.2%	100.0%	Continous rotation from slow to fast	
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	12.5%	100.0%	On	
28	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	
29	Frost	0	31	0.0%	12.2%	Off	
		32	255	12.5%	100.0%	On	0(0%)
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%	No function	
		20	29	7.8%	11.4%	No function	
		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%	Reset all motor after 5 seconds	
		70	79	27.5%	31.0%	All color motor reset after 5 seconds	
		80	89	31.4%	34.9%	All gobo motor reset after 5 seconds	
		90	99	35.3%	38.8%	All strobe reset after 5 seconds	
		100	109	39.2%	42.7%	Blade motor reset after 5 seconds	
		110	119	43.1%	46.7%	Other motor reset after 5 seconds	
		120	129	47.1%	50.6%	No function	
		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	65535	0.0%	100.0%	Intensity fade, fine (LSB)	
4	Cyan	0	255	0.0%	100.0%	White ➔ Full cyan	0(0%)
5		0	65535	0.0%	100.0%	Cyan fade, fine (LSB)	
6	Magenta	0	255	0.0%	100.0%	White ➔ Full magenta	0(0%)
7		0	65535	0.0%	100.0%	Magenta fade, fine (LSB)	
8	Yellow	0	255	0.0%	100.0%	White ➔ Full yellow	0(0%)
9		0	65535	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	255	0.0%	100.0%	White ➔ Full cyan	0(0%)
12		0	65535	0.0%	100.0%	CTO fade, fine (LSB)	
13	Color wheel	0	19	0.0%	7.5%	Open	0(0%)
		20	37	7.8%	14.5%	Color 1	
		38	55	14.9%	21.6%	Color 2	
		56	73	22.0%	28.6%	Color 3	
		74	91	29.0%	35.7%	Color 4	

		92	109	36.1%	42.7%	Color 5	
		110	127	43.1%	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%	100.0%	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	
		32	39	12.5%	15.3%	Gobo 3	
		40	47	15.7%	18.4%	Gobo 4	
		48	55	18.8%	21.6%	Gobo 5	
		56	63	22.0%	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	37.6%	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%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
15	Rotating gobo wheel 1	0	7	0.0%	2.7%	Open gobo	0(0%)
		8	17	3.1%	6.7%	Gobo 1	
		18	27	7.1%	10.6%	Gobo 2	
		28	37	11.0%	14.5%	Gobo 3	

		38	47	14.9%	18.4%	Gobo 4	
		48	57	18.8%	22.4%	Gobo 5	
		58	67	22.7%	26.3%	Gobo 6	
		68	77	26.7%	30.2%	Gobo 1 shake	
		78	87	30.6%	34.1%	Gobo 2 shake	
		88	97	34.5%	38.0%	Gobo 3 shake	
		98	107	38.4%	42.0%	Gobo 4 shake	
		108	117	42.4%	45.9%	Gobo 5 shake	
		118	127	46.3%	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	
		188	195	73.7%	76.5%	Stop	
		196	255	76.9%	100.0%	Gobo continous rotation CW from slow to fast	
17		0	65535	0.0%	100.0%	Gobo rotation/positioning, fine (LSB)	
18	Blade 1	0	255	0.0%	100.0%	White ➔ Full Blade 1	0(0%)
19		0	65535	0.0%	100.0%	Full Blade 1, fine (LSB)	
20	Blade 2	0	255	0.0%	100.0%	White ➔ Full Blade 2	0(0%)
21		0	65535	0.0%	100.0%	Full Blade 2, fine (LSB)	
22	Blade 3	0	255	0.0%	100.0%	White ➔ Full Blade 3	0(0%)
23		0	65535	0.0%	100.0%	Full Blade 3, fine (LSB)	
24	Blade 4	0	255	0.0%	100.0%	White ➔ Full Blade 4	0(0%)
25		0	65535	0.0%	100.0%	Full Blade 4, fine (LSB)	
26	Blade 5	0	255	0.0%	100.0%	White ➔ Full Blade 5	0(0%)
27		0	65535	0.0%	100.0%	Full Blade 5, fine (LSB)	

28	Blade 6	0	255	0.0%	100.0%	White ➔ Full Blade 6	0(0%)
29		0	65535	0.0%	100.0%	Full Blade 6, fine (LSB)	
30	Blade 7	0	255	0.0%	100.0%	White ➔ Full Blade 7	0(0%)
31		0	65535	0.0%	100.0%	Full Blade 7, fine (LSB)	
32	Blade 8	0	255	0.0%	100.0%	White ➔ Full Blade 8	0(0%)
33		0	65535	0.0%	100.0%	Full Blade 8, fine (LSB)	
34	Framing Rotation	0	255	0.0%	100.0%	Framing Rotation	0(0%)
35		0	65535	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	
		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	Effect wheel rotation (Fire)	0	127	0.0%	49.8%	Effect wheel rotation/positioning	0(0%)
		128	255	50.2%	100.0%	Continous rotation from slow to fast	
40	Focus	0	255	0.0%	100.0%	Near ➔ Far	0(0%)
41		0	65535	0.0%	100.0%	Focus, fine (LSB)	
42	Zoom	0	255	0.0%	100.0%	Narrow ➔ Wide	0(0%)
43		0	65535	0.0%	100.0%	Zoom, fine (LSB)	
44	Prism	0	31	0.0%	12.2%	Off	0(0%)
		32	255	12.5%	100.0%	On	
45	Prism	0	127	0.0%	49.8%	Prism rotation/positioning	0(0%)

	rotation	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	
46	Frost	0	31	0.0%	12.2%	Off	
		32	255	12.5%	100.0%	On	0(0%)
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	0(0%)
		10	19	3.9%	7.5%	No function	
		20	29	7.8%	11.4%	No function	
		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%	Reset all motor after 5 seconds	
		70	79	27.5%	31.0%	All color motor reset after 5 seconds	
		80	89	31.4%	34.9%	All gobo motor reset after 5 seconds	
		90	99	35.3%	38.8%	All strobe reset after 5 seconds	
		100	109	39.2%	42.7%	Blade motor reset after 5 seconds	
		110	119	43.1%	46.7%	Other motor reset after 5 seconds	
		120	129	47.1%	50.6%	No function	
		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
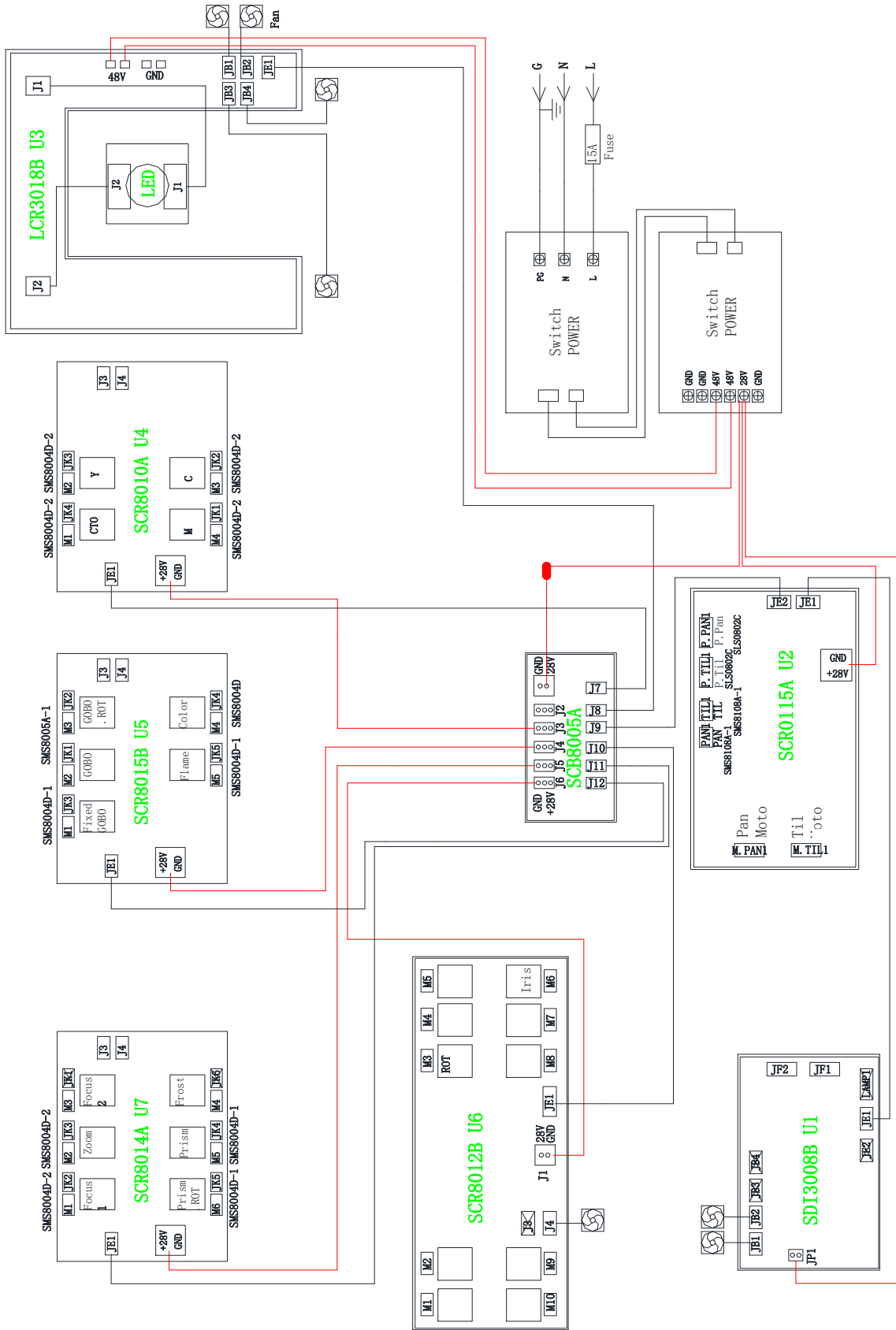
12. Maintenance and Troubleshooting

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.

⚠️**Warning**

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. Troubleshoot and correct the problem before switching on the fixture again. Any maintenance work should only be carried out by qualified technicians.

- To ensure the continuous rotation of the rotating gobos and linear motion of the focus lens, it is recommended that the bearings on the rotating gobos and the 2 shafts for the focus system are lubricated periodically, preferably every 3-6 months. Use only high quality, high-temperature resistant grease. When lubricating the bearings, a syringe with a fine needle is the best way to grease the bearings around each gobo. Be aware not to use too much grease, and stain the parts around.

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 a replacement 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 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	The main control board PWM signal no output.	Replace themain control board or repair
	The drive plate LED+ / LED- no output or overload,poor contact of line interface.	Reconnect the terminal,replace the drive board.
	Whether the service life of LED reaches the limit,whether the welding is poor,and whether the heat dissipation performance is poor.	Repair and replace the LED light source or the whole aluminum base plate,and eliminate the cooling system fault.
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.
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.

Problem	Possible Cause	Suggested Correction
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.
	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.

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