Moving Head

GTD-1500 II SPOT

User's Manual

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Contents

Safety instructions

⚠️	**WARNING!** 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!** Burn hazard. Hot surface. Do not touch.
🔥	**WARNING!** Fire hazard.
🏠	**INDOORS USE ONLY!** Do not expose fixture for rain and moisture.
⏚	It's essential that the fixture is properly grounded. Only qualified personnel should perform electrical connections.
👓	**WARNING!** Wear protective eyewear. Never look directly into the light source.

- Only qualified and certified personnel should perform installation of this fixture and only the original rigging parts (brackets) included with this fixture should be used for installation.

- Before applying power to the fixture, check that the source voltage matches the fixture's requirement. Every fixture must be earthed (grounded) and installed in accordance with local electricity regulations. Do not connect it to a dimmer system.

- Never look directly into the light source of this fixture to prevent risk of injury to your retina, which may induce blindness.

General guidelines

- 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.

- This fixture is a professional light effect designed for **INDOOR / DRY LOCATIONS ONLY** on stage, in nightclubs, theatres, etc.

- **Minimum** distance to lighted objects must be **26.24feet (3m)**.

- **Maximum** temp of the external surface **248˚F (120˚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 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.

- 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.

- This fixture uses discharge lamp. To avoid reducing the lamp's life, wait at least 15 minutes after powering off to allow the unit to cool down before handling.

- Broken or damaged cables 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.

Packing and shipping

Protection lock

Pan and tilt locks are equipped to ensure safe transportation.

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

TILT: 5 lock positions are located on left and right side of the Tilt with the third one in the center.
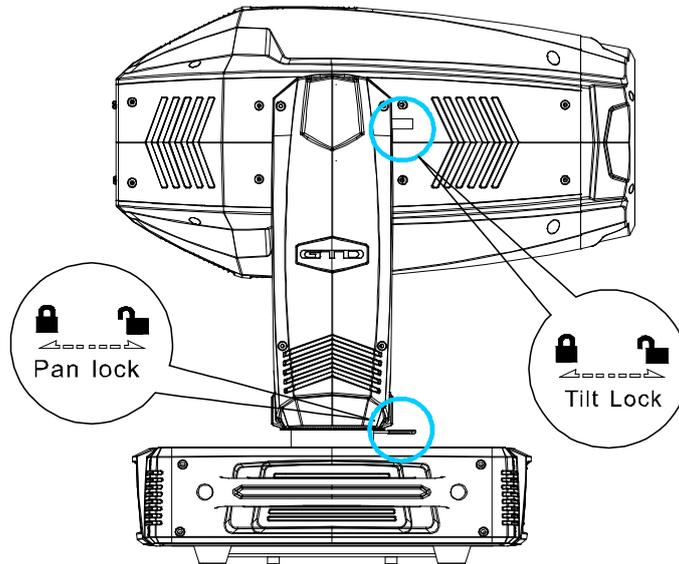
Unpacking

⚠️**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.

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 2 layers are allowed when piling up the flight cases. Do not upside down.
   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.

Accessories

Item	Qty	Unit	Notes
User Manual	1	pc	-
Clamps	2	set	G-clamp with 1/4-turn fasteners, for Ø42-52mm, Max. 200 kg
Power cable	1	pc	

⚠**Notes**

Accessories are subject to change without any prior written notice.

Product introduction
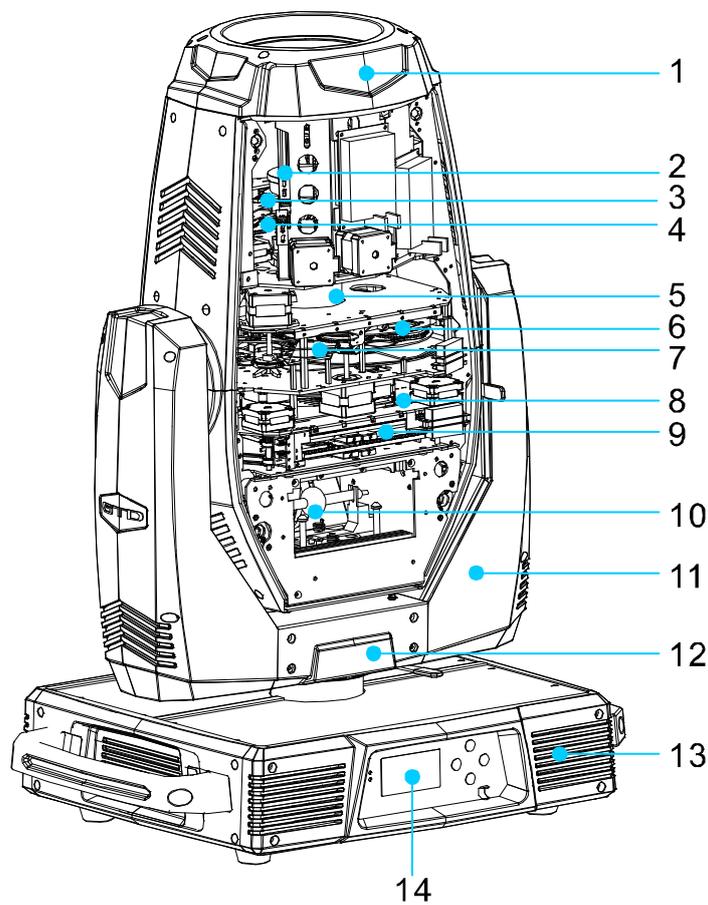
1	Head	2	Zoom	3	Prism
4	Focus	5	Frost	6	Effect wheel
7	Gobo wheel	8	Color wheel	9	CMY
10	Lamp source	11	Tilt	12	Pan
13	Base	14	Display		

Installation

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.

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.

Safety cable mounting position

Clamp   Clamp
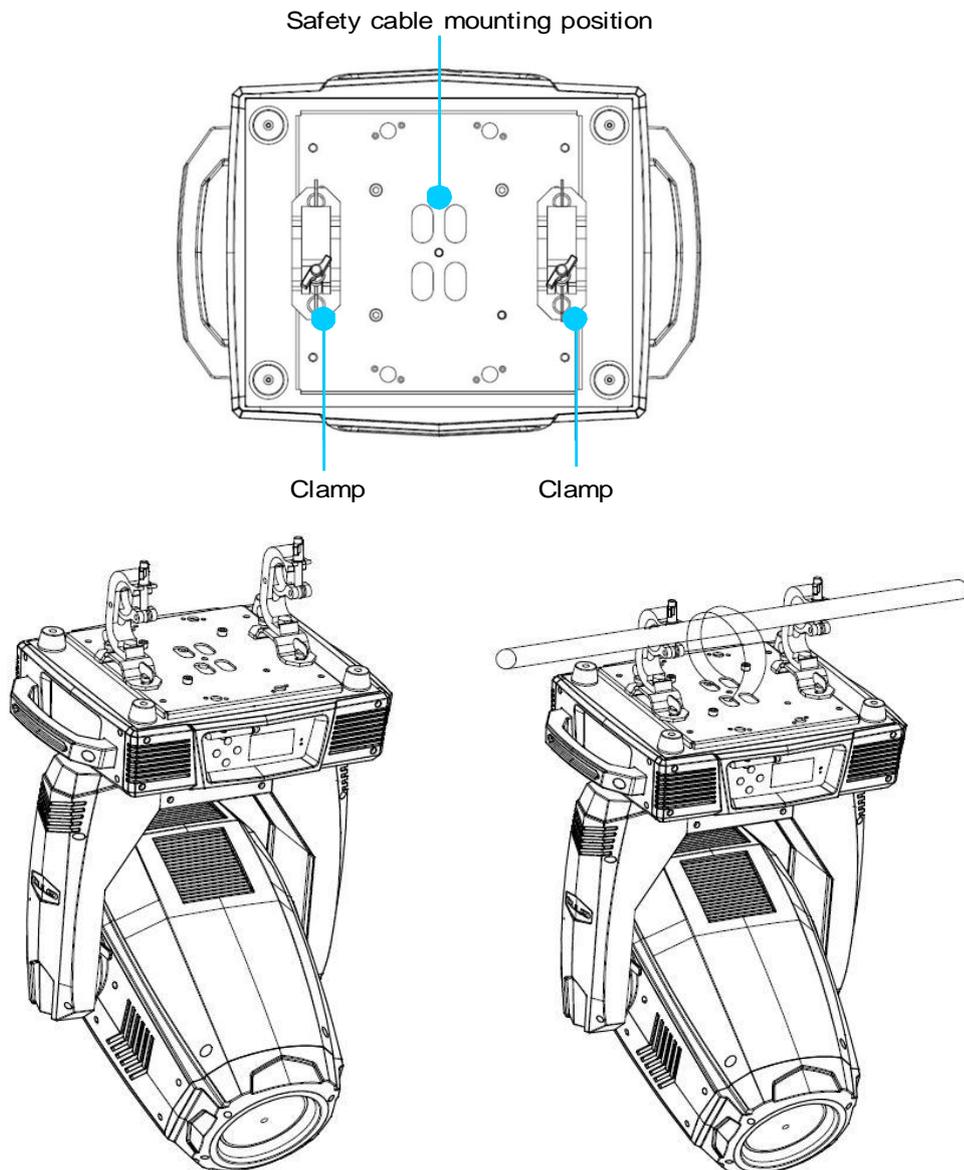
Lamp fitting and adjustment

1. Disconnect the power, cool down the fixture, and set the Tilt lock-catch on the arm in a horizontal position.
2. Use a flathead screwdriver to rotate 1/4 circle counter-clockwise to unscrew the four quick bolts on the lamp's back-cover.
3. Pull the back cover out gently in parallel direction by hands, and pull it in full place to let it drop down naturally.
4. Let the dot on the sphere of the lamp face to the back and the sphere face to the front, put the lamp horizontally into the slot on the lamp-holder and make sure that the lamp's metal handle already be in alignment with the bayonet edge of the holder. Then press the metal legs at the ends of the lamp gently down to the right position, and make sure the lamp has been fixed well to the position.
5. And then push the back-holder with the fixed lamp gently into the reflector, meanwhile observe the outlet of the reflector when pushing, and use a flathead screwdriver to fasten the back cover by rotating the quick bolt 1/4 circle clockwise.
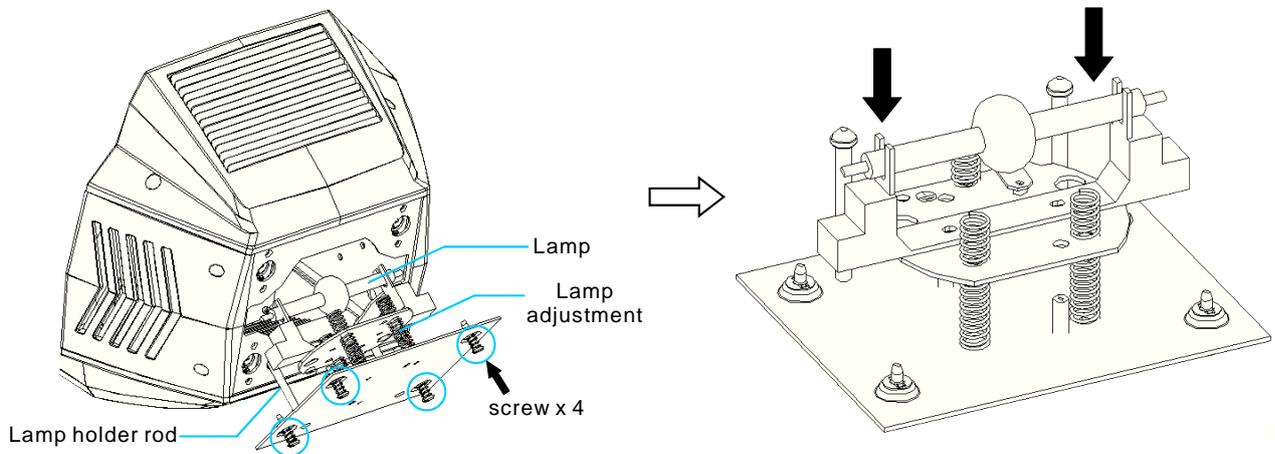
⚠️**Notes**

The fixture is equipped with Metal Halide 1500W short arc discharge lamp, which is featured with high efficiency and short-arc characteristic, such as a stable 6000K color-temperature and average lifespan of 750 hrs.

The lamp is equipped with special designed bayonets at both ends. The K575B double ended lamp holder must be applied to ensure proper installation.

⚠️**Warning**

Fitting another type of lamp will cause potential damage to the fixture. Change the lamp before it reaches its lifespan. Read the guidelines in the package carefully when fixing the lamp.

To avoid any impact on the beam, do not touch the bulb with your bare hands. The lamp must be kept clean with the use of the clean paper contained in its package.

Lamp adjustment

1. Turn on the power to reset the fixture, cast a beam of white light spot via the menu or the console.

2. Adjust the position of the lamp with hex wrench to screws of A, B and C on the lamp's back cover corresponding to the left offset, the right offset and offset back and forth, pay attention to the white light spot while adjusting the screws until the uniformity of the spot comes to the best effect.
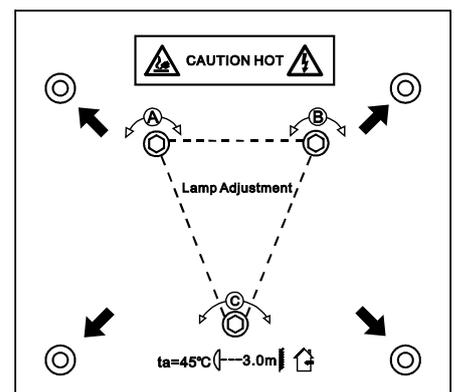
Power/ Control connection

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.

Control connection

The fixture has 5-pin and 3-pin XLR connectors for DMX data input and output as shown below. Connection between the console and fixture, and between fixtures must be made with 2 core screened DMX signal cable. Maximum connecting distance of signal cable is 150 meters. Additional DMX512 signal-amplifier is recommended for longer distance.
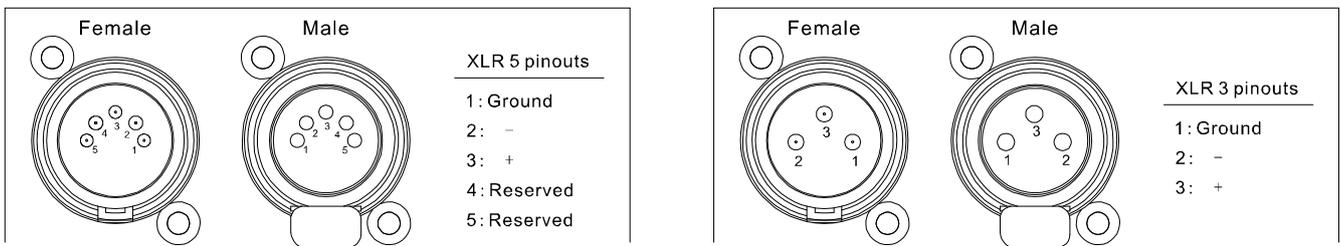
Connect the Console's DMX OUTPUT to the first fixture's DMX INPUT, then the first fixture's DMX OUTPUT to the second fixture's DMX INPUT and so on. It is recommended not to connect more than 32 units on a single DMX universe. On the last fixture's output connect a DMX terminator. (The terminator is a XLR connector with a ¼ W and 120Ω resistor between the pin 2 and pin 3) as shown below:
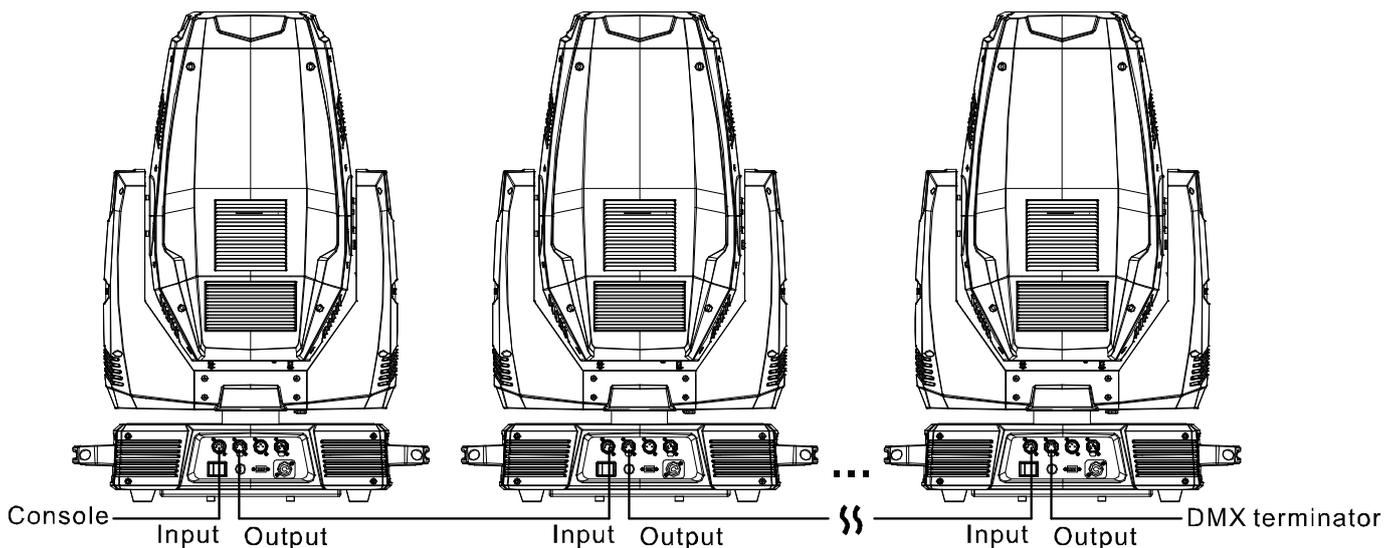
Testing

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

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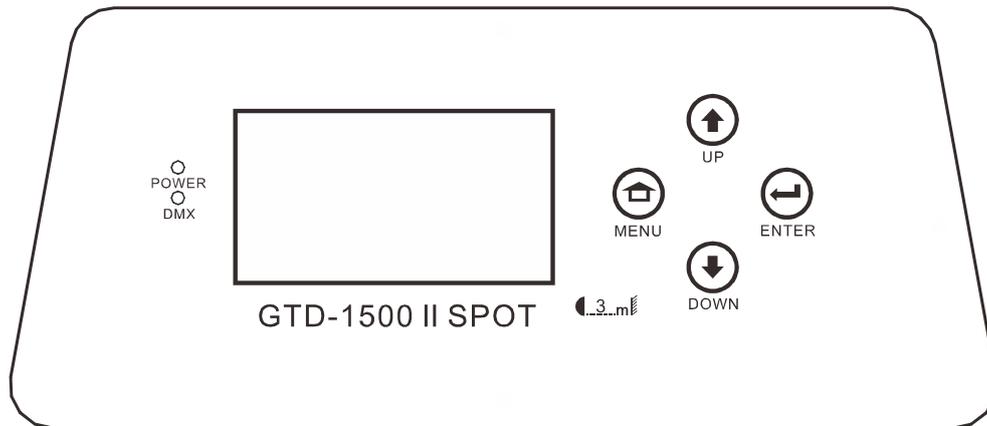
- The control panel features touch-sensitive buttons and LCD digital display for quick and easy setup of address code and functions menu.

- Press UP or DOWN to view or select the function menu.

- Press ENTER to choose a function and enter into corresponding sub menu. Each menu represents a specific function of the fixture.

- Press ENTER to select the specific function and save the changes or enter into the submenu, then press UP or DOWN to change the value of the selected function (increase or decrease).

- Press MENU to return to the previous menu or exit.

- LED indicators:
  - ➢ Power on: RED power LED indicator on
  - ➢ Signal on: Green DMX indicator on
  - ➢ No Signal: Green DMX indicator off

Gobos and colors

Gobo specification

All patterns are made onto the metal or glass 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	¢ 33mm	¢ 27mm	1mm
Metal gobo	¢ 33mm	¢ 27mm	0.5mm

⚠**Notes**

Glass Gobo is made of high temperature resistant glass. Metal Gobo is made of high temperature resistant aluminum alloy in laser cutting.

Gobos

- Two rotating gobo wheels: each is with 6 interchangeable gobos (the wheel with 5 interchangeable gobos is optional) + open, indexing, CW/CCW rotation, variable speed.

Standard

Optional
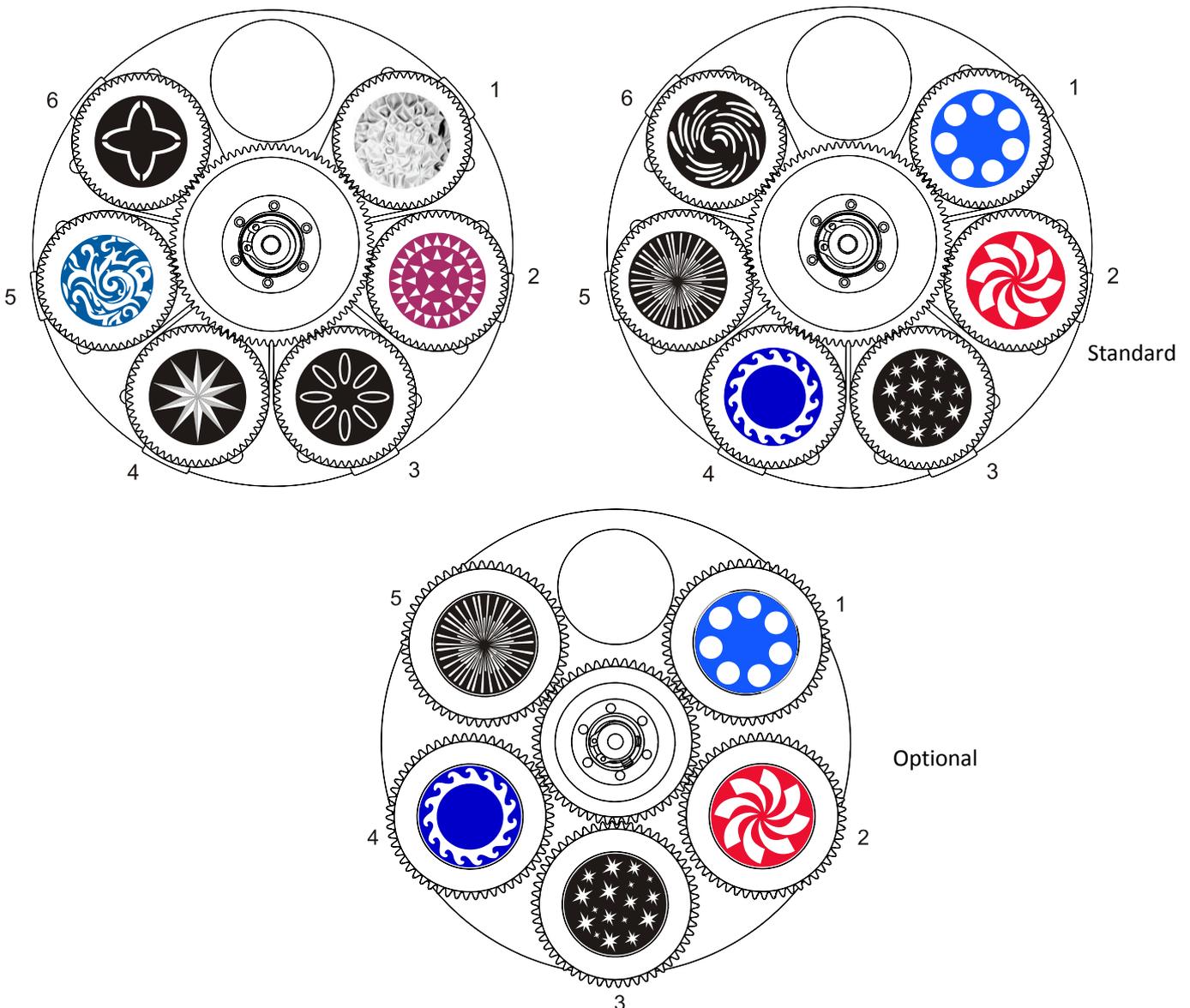
• One fixed gobo wheel: 7 gobos + open, CW/CCW rotation, variable speed
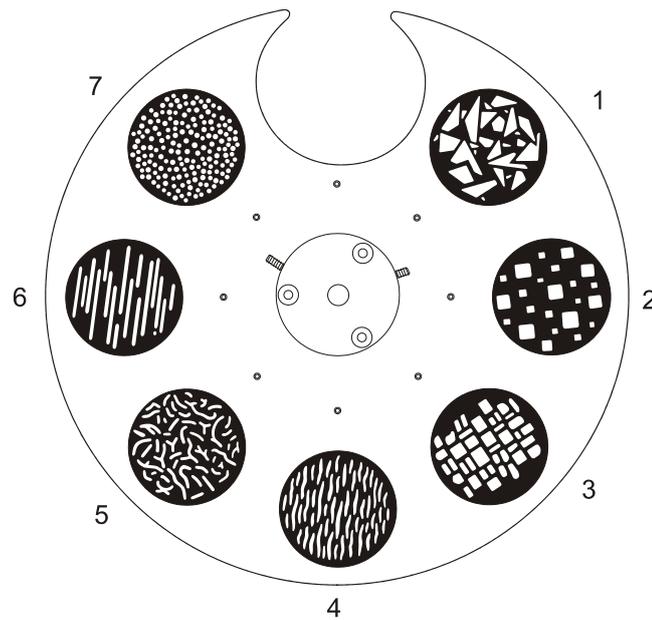
Colors

• One color wheel: 7 colors + open, split color, CW/CCW rotation, variable speed
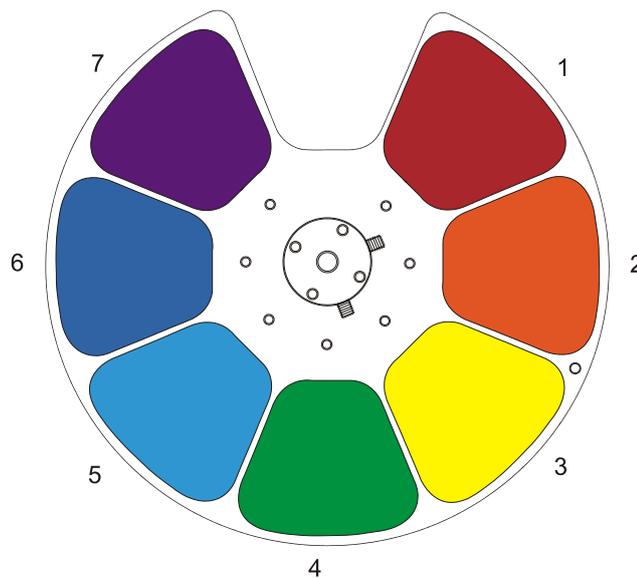
1: red

2: orange

3: yellow

4: green

5: light blue

6: dark blue

7: purple

Menu structure

1500 II SPOT – Menu Structure	
Revision: A	Valid from firmware version: 5.0

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
	Slave Address	Slave 1,2,3		Choose the slave address
	Auto-Program	Master /Slave		Run auto program in master or slave
	Music Program	Master/ Slave		Run music 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	Body Temperature	XXX 'C/'F	Body temperature
	Software Version	X.X		The software version
Lamp Control	Lamp On/Off	On/Off		Open lamp
	Power On Lamp On	Enable/Disable		Power on open lamp
	Console Lamp On	Enable/Disable		Console open lamp
	Console Lamp Off	Enable/Disable		Console close lamp
	Lamp On Temp.	20~79, 45'C /68~174 , 113'F		Open lamp below temperature
	Lamp Off Temp.	80~139, 130'C/176~282,266'F		Close lamp above temperature
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	630/540	Pan Scan Degree
		Scan Feedback	Enable/Disable	Scan Feedback
		Scan Speed	Quick/Middle/Low/Slow	Change the scan speed
		Mic. Sensitivity	0~99%	Microphone sensitivity
		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
		Language	Chinese/English	Change the language

⚠**Notes**

Settings highlighted in light grey are default values.

Level 1	Level 2	Level 3	Level 4	Info
System 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	Restore/Cancel		Restore to default value
Reset	System Reset Scan Reset Color Reset Gobo Reset Strobe Reset Others Reset			System reset Pan an tilt motor reset All color motor reset All gobo motor reset All strobe 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(99) Pan = XXX :	The password of adjust mode Fixed all begin position
Channel Setting	Channel Mode	Standard Mode Basic Mode Extended Mode Custom Mode 1 Custom Mode 2 Custom Mode 3		Standard channel mode Basic channel mode Extended channel mode Custom channel mode 1 Custom channel mode 2 Custom channel mode 3
	Set Custom Mode 1 Set Custom Mode 2 Set Custom Mode 3	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-Program 1 : Auto-Program 10	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

⚠**Notes**

Settings highlighted in light grey are default values.

DMX protocol

<table>
<tr><td colspan="11" align="center">1500 II Spot - DMX Protocol</td></tr>
<tr><td colspan="5">Revision: B</td><td colspan="6">Valid from firmware version: 5.1</td></tr>
<tr><td colspan="3">DMX mode</td><td rowspan="3">Name</td><td colspan="2" rowspan="3">DMX value</td><td colspan="2" rowspan="3">DMX percentage</td><td rowspan="3">Function</td><td>Default</td></tr>
<tr><td>Standard</td><td>Basic</td><td>Extended</td><td>DMX</td></tr>
<tr><td>(31ch)</td><td>(28ch)</td><td>(37ch)</td><td>Value</td></tr>
<tr><td rowspan="6">1</td><td rowspan="6">1</td><td rowspan="6">1</td><td rowspan="6">Strobe/Shutter</td><td>0</td><td>31</td><td>0.0%</td><td>12.2%</td><td>Closed</td><td rowspan="6">0(0%)</td></tr>
<tr><td>32</td><td>63</td><td>12.5%</td><td>24.7%</td><td>Open</td></tr>
<tr><td>64</td><td>127</td><td>25.1%</td><td>49.8%</td><td>Synchronous strobe from slow to fast</td></tr>
<tr><td>128</td><td>159</td><td>50.2%</td><td>62.4%</td><td>Open</td></tr>
<tr><td>160</td><td>223</td><td>62.7%</td><td>87.5%</td><td>Random strobe from slow to fast</td></tr>
<tr><td>224</td><td>255</td><td>87.8%</td><td>100.0%</td><td>Open</td></tr>
<tr><td>2</td><td>2</td><td>2</td><td rowspan="2">Intensity</td><td>0</td><td>255</td><td>0.0%</td><td>100.0%</td><td>No light → Full light</td><td rowspan="2">0(0%)</td></tr>
<tr><td>3</td><td></td><td>3</td><td>0</td><td>65535</td><td>0.0%</td><td>100.0%</td><td>Intensity fade, fine (LSB)</td></tr>
<tr><td>4</td><td>3</td><td>4</td><td rowspan="2">Cyan</td><td>0</td><td>255</td><td>0.0%</td><td>100.0%</td><td>White → Full cyan</td><td rowspan="2">0(0%)</td></tr>
<tr><td></td><td></td><td>5</td><td>0</td><td>65535</td><td>0.0%</td><td>100.0%</td><td>Cyan fade, fine (LSB)</td></tr>
<tr><td>5</td><td>4</td><td>6</td><td rowspan="2">Magenta</td><td>0</td><td>255</td><td>0.0%</td><td>100.0%</td><td>White → Full magenta</td><td rowspan="2">0(0%)</td></tr>
<tr><td></td><td></td><td>7</td><td>0</td><td>65535</td><td>0.0%</td><td>100.0%</td><td>Magenta fade, fine (LSB)</td></tr>
<tr><td>6</td><td>5</td><td>8</td><td rowspan="2">Yellow</td><td>0</td><td>255</td><td>0.0%</td><td>100.0%</td><td>White → Full yellow</td><td rowspan="2">0(0%)</td></tr>
<tr><td></td><td></td><td>9</td><td>0</td><td>65535</td><td>0.0%</td><td>100.0%</td><td>Yellow fade, fine (LSB)</td></tr>
<tr><td rowspan="3">7</td><td rowspan="3">6</td><td rowspan="3">10</td><td rowspan="3">CMY color macro</td><td>0</td><td>15</td><td>0.0%</td><td>5.9%</td><td>CMY color macro off</td><td rowspan="3">0(0%)</td></tr>
<tr><td>16</td><td>135</td><td>6.3%</td><td>52.9%</td><td>CMY synchronous color from slow to fast</td></tr>
<tr><td>136</td><td>255</td><td>53.3%</td><td>100.0%</td><td>CMY random color from slow to fast</td></tr>
<tr><td>8</td><td>7</td><td>11</td><td rowspan="2">CTO</td><td>0</td><td>255</td><td>0.0%</td><td>100.0%</td><td>Warm → Cold</td><td rowspan="2">0(0%)</td></tr>
<tr><td></td><td></td><td>12</td><td>0</td><td>65535</td><td>0.0%</td><td>100.0%</td><td>CTO fade, fine (LSB)</td></tr>
<tr><td rowspan="11">9</td><td rowspan="11">8</td><td rowspan="11">13</td><td rowspan="11">Color wheel</td><td>0</td><td>15</td><td>0.0%</td><td>5.9%</td><td>Open</td><td rowspan="11">0(0%)</td></tr>
<tr><td>16</td><td>31</td><td>6.3%</td><td>12.2%</td><td>Color 1</td></tr>
<tr><td>32</td><td>47</td><td>12.5%</td><td>18.4%</td><td>Color 2</td></tr>
<tr><td>48</td><td>63</td><td>18.8%</td><td>24.7%</td><td>Color 3</td></tr>
<tr><td>64</td><td>79</td><td>25.1%</td><td>31.0%</td><td>Color 4</td></tr>
<tr><td>80</td><td>95</td><td>31.4%</td><td>37.3%</td><td>Color 5</td></tr>
<tr><td>96</td><td>111</td><td>37.6%</td><td>43.5%</td><td>Color 6</td></tr>
<tr><td>112</td><td>127</td><td>43.9%</td><td>49.8%</td><td>Color 7</td></tr>
<tr><td>128</td><td>187</td><td>50.2%</td><td>73.3%</td><td>Color continous rotation CW from slow to fast</td></tr>
<tr><td>188</td><td>195</td><td>73.7%</td><td>76.5%</td><td>Stop</td></tr>
<tr><td>196</td><td>255</td><td>76.9%</td><td>100.0%</td><td>Color continous rotation CCW from slow to fast</td></tr>
</table>

15

DMX mode			Name	DMX value		DMX percentage		Function	Default DMX Value
Standard (31ch)	Basic (28ch)	Extended (37ch)							
10	9	14	Rotating gobo wheel 1	0	9	0.0%	3.5%	Open gobo	0(0%)
				10	19	3.9%	7.5%	Gobo 1	
				20	29	7.8%	11.4%	Gobo 2	
				30	39	11.8%	15.3%	Gobo 3	
				40	49	15.7%	19.2%	Gobo 4	
				50	59	19.6%	23.1%	Gobo 5	
				60	69	23.5%	27.1%	Gobo 6	
				70	79	27.5%	31.0%	Gobo 1 shake	
				80	89	31.4%	34.9%	Gobo 2 shake	
				90	99	35.3%	38.8%	Gobo 3 shake	
				100	109	39.2%	42.7%	Gobo 4 shake	
				110	119	43.1%	46.7%	Gobo 5 shake	
				120	127	47.1%	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	10	15	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 CW from slow to fast	
				188	195	73.7%	76.5%	Stop	
				196	255	76.9%	100.0%	Gobo continous rotation CCW from slow to fast	
12		16		0	65535	0.0%	100.0%	Gobo rotation/positioning, fine (LSB)	
13	11	17	Rotating gobo wheel 2	0	9	0.0%	3.5%	Open gobo	0(0%)
				10	19	3.9%	7.5%	Gobo 1	
				20	29	7.8%	11.4%	Gobo 2	
				30	39	11.8%	15.3%	Gobo 3	
				40	49	15.7%	19.2%	Gobo 4	
				50	59	19.6%	23.1%	Gobo 5	
				60	69	23.5%	27.1%	Gobo 6	
				70	79	27.5%	31.0%	Gobo 1 shake	
				80	89	31.4%	34.9%	Gobo 2 shake	
				90	99	35.3%	38.8%	Gobo 3 shake	
				100	109	39.2%	42.7%	Gobo 4 shake	
				110	119	43.1%	46.7%	Gobo 5 shake	
				120	127	47.1%	49.8%	Gobo 6 shake	

DMX mode			Name	DMX value		DMX percentage		Function	Default
Standard (31ch)	Basic (28ch)	Extended (37ch)							DMX Value
13	11	17	Rotating gobo wheel 2	128	187	50.2%	73.3%	Gobo wheel continous rotation CW from slow to fast	0(0%)
				188	195	73.7%	76.5%	Stop	
				196	255	76.9%	100.0%	Gobo wheel continous rotation CCW from slow to fast	
14	12	18	Gobo rotating/positioning gobo wheel 2	0	127	0.0%	49.8%	Gobo rotation positioning	
				128	187	50.2%	73.3%	Gobo continous rotation CW from slow to fast	
				188	195	73.7%	76.5%	Stop	
				196	255	76.9%	100.0%	Gobo continous rotation CCW from slow to fast	
15		19		0	65535	0.0%	100.0%	Gobo rotation/positioning, fine (LSB)	
16	13	20	Effect wheel (Fire)	0	31	0.0%	12.2%	Open	0(0%)
				32	255	12.5%	100.0%	fire wheel cut-in	
17	14	21	Effect wheel rotation (Fire)	0	127	0.0%	49.8%	Indexed	0(0%)
				128	187	50.2%	73.3%	Continous rotation CW from slow to fast	
				188	195	73.7%	76.5%	Stop	
				196	255	76.9%	100.0%	Continous rotation CCW from slow to fast	
18	15	22	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	

DMX mode			Name	DMX value		DMX percentage		Function	Default DMX Value
Standard (31ch)	Basic (28ch)	Extended (37ch)							
19	16	23	Iris	0	255	0.0%	100.0%	Open → Close	0(0%)
20	17	24	Iris macro	0	31	0.0%	12.2%	Disable Iris macro	0(0%)
				32	63	12.5%	24.7%	Effect - Synchronous open from fast to slow	
				64	95	25.1%	37.3%	Effect - Synchronous off 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 off from fast to slow	
				160	191	62.7%	74.9%	Strobe follow from slow to fast	
				192	255	75.3%	100.0%	Disable Iris macro	
21	18	25	Focus	0	255	0.0%	100.0%	Near → Far	0(0%)
		26		0	65535	0.0%	100.0%	Focus, fine (LSB)	
22	19	27	Zoom	0	255	0.0%	100.0%	Narrow → Wide	0(0%)
		28		0	65535	0.0%	100.0%	Zoom, fine (LSB)	
23	20	29	Prism	0	31	0.0%	12.2%	Off	0(0%)
				32	255	12.5%	100.0%	On	
24	21	30	Prism rotation	0	127	0.0%	49.8%	Prism indexed	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	
25	22	31	Frost zoom	0	127	0.0%	49.8%	Off	0(0%)
				128	255	50.2%	100.0%	Frost zoom from smallest to biggest	
26	23	32	Pan	0	255	0.0%	100.0%	Pan	46(18.0%)
27	24	33		0	65535	0.0%	100.0%	Pan, fine (LSB)	
28	25	34	Tilt	0	255	0.0%	100.0%	Tilt	0(0%)
29	26	35		0	65535	0.0%	100.0%	Tilt, fine (LSB)	
30	27	36	Scan speed	0	255	0.0%	100.0%	Scan speed from fast to slow	0(0%)

DMX mode			Name	DMX value		DMX percentage		Function	Default
Standard (31ch)	Basic (28ch)	Extended (37ch)							DMX Value
31	28	37	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%	Reset all motor after 5 seconds	
				70	79	27.5%	31.0%	Scan motor reset after 5 seconds	
				80	89	31.4%	34.9%	All color motor reset after 5 seconds	
				90	99	35.3%	38.8%	All gobo motor reset after 5 seconds	
				100	109	39.2%	42.7%	All strobe motor reset after 5 seconds	
				110	119	43.1%	46.7%	Other motor reset after 5 seconds	
				120	129	47.1%	50.6%	Built-in program 1	
				130	139	51.0%	54.5%	Built-in program 2	
				140	149	54.9%	58.4%	Built-in program 3	
				150	159	58.8%	62.4%	Built-in program 4	
				160	169	62.7%	66.3%	Built-in program 5	
				170	179	66.7%	70.2%	Built-in program 6	
				180	189	70.6%	74.1%	Built-in program 7	
				190	199	74.5%	78.0%	Built-in program 8	
				200	209	78.4%	82.0%	Built-in program 9	
				210	219	82.4%	85.9%	Built-in program 10	
				220	255	86.3%	100.0%	Voice control	

⚠**Notes**

Do not switch off the fixture within the first minute after switching on. Wait for at least 5 minutes to switch on the fixture.

Technical specification

Optical

- Light source: OSRAM SHARXS® 1500W Brilliant (OSRAM SHARXS HTI 1500W/D7/60 or PHILIPS MSR Gold 1510 SA/DE optional)

- Expected average lifetime: 750 hours

- Beam angle (zoom): 11˚ - 53˚

- Focus: Variable range, from 5m to infinity

- Prism: 3-facet prism, CW/CCW rotation, variable speed

- Animation effect: 1 wheel, CW/CCW rotation, variable speed

- Ballast: Electronic

Photometric

- Total Output (Lumen): 25200 lumens narrow / 26400 lumens wide

Gobo

- Rotating gobo: 2 rotating gobo wheels, each is with 6 interchangeable gobos + open, indexing, CW/CCW rotation, variable speed

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

- Gobo outside diameter: 33mm

- Max. Image diameter: 27mm

- Max. Thickness: 0.5mm(Metal)/1mm(Glass)

- Glass/Metal gobo: Glass/Metal

Color

Color wheel: 7 colors + open, split color, CW/CCW rotation, variable speed

CMY / CTO: CMY + CTO for linear infinity color mixing, color temperature correction (6000k-2700k)

Electrical

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

- Max. Power consumption: 1830W, max current: 8.4A, PF: 0.98

- Power supply unit: Auto-ranging electronic SMPS

- Main fuse: 250V/15A

Control and programming

- Control channels (DMX): 31/28/37

- Protocol: DMX-512

- Display: Graphic LCD backlit

Physical / Installation

- Weight: 47 kg (103 lbs.)

- IP rating: IP20

- Material: Aluminum, steel, plastic

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

Dynamic effects

- Pan/Tilt movement: 540˚/630˚(pan), 270˚(tilt)

- Iris: 5-100% high speed, with build-in macros

- Strobe: 1-20Hz, synchronized, pulse effects

- Dimmer: 0-100%, 16-bit, mechanical dimming

Thermal

- Operating range: 14˚F to 113˚F (-10˚C to +45˚C)

- Startup range: 5˚F to 113˚F (-15˚C to +45˚C)

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

- Cooling: Active fan

- Humidity: ≤85%

Connections

- AC power: Neutrik powerCon

- DMX data input/output: Chassis 5-pin Neutrik XLR (in/out)

Certification and Safety

- EMC: EN 55103-1:2009, EN 55103-2:2009, EN 61000-3-2:2006+A2:2009, EN 61000-3-3:2013

- Safety: EN 60598-2-17:1989/A2:1991

Photometric

Illuminance(LUX)				
53°	2630	894	445	210
11°	49280	12260	5827	3556

Distance(m/ft.)	0	5 / 16.40	10 / 32.81	15 / 49.21	20 / 65.61
Beam Diameter(m/ft.)(11°)		∅0.95 / 3.12	∅1.90 / 6.23	∅2.85 / 9.35	∅3.80 / 12.47
Beam Diameter(m/ft.)(53°)		∅5.00 / 16.40	∅10.00 / 32.81	∅15.00 / 49.21	∅20.00 / 65.62
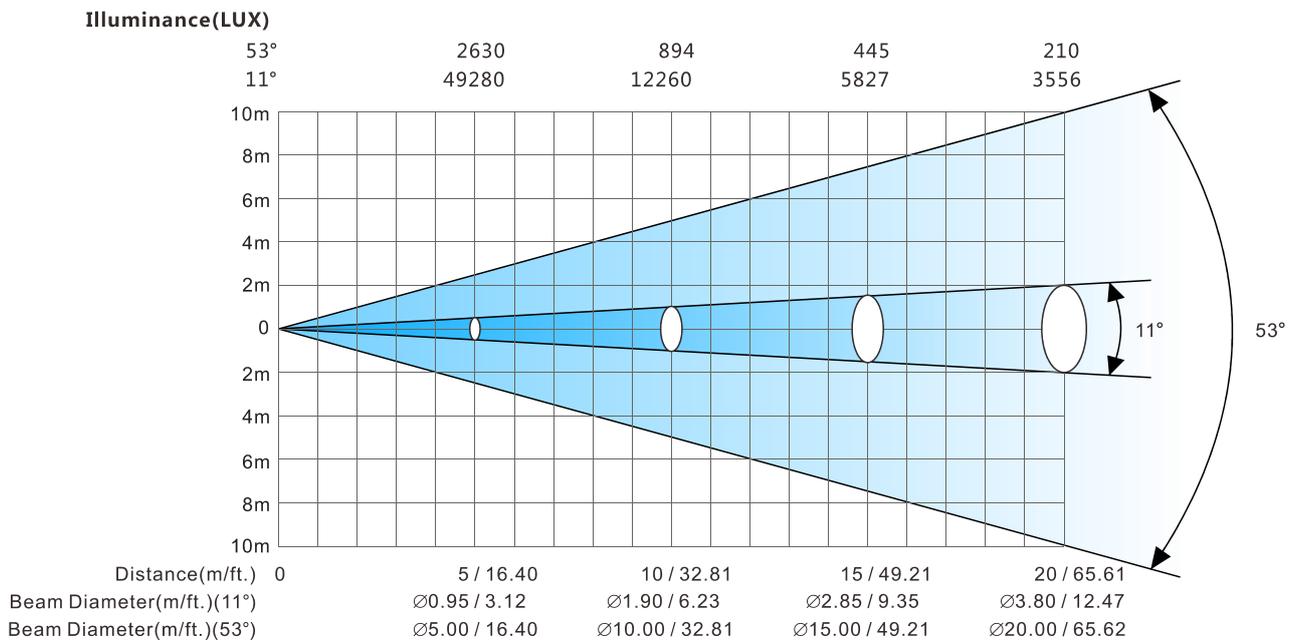
Other features

- 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 LCD interface without power connection

- Communication design: DMX wired or wireless signal transmission, RDM bi-directional control technology, can be upgraded by DMX remote software.

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.

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	Normal end of lamp life.	Test the lamp in an adjacent fixture which is known to be operating properly and then replace as necessary.
	Whether the function of the relay board is intact, whether the signal is normal or not.	Repair or replace.
	Shorted leads between ballast and the lamp.	Replace components as required.
	Incorrect ballast output.	Check ballast output to determine if it conforms to lamp requirements. If voltage and current do not stabilize in five to ten minutes warm-up time, ballast output is incorrect and adjustment should be made. Check capacitor wiring, if visibly available, to determine if capacitors are properly wired.
	Incorrect triggers output.	Replace triggers.
The lamp is off unexpected	The fixture is in sleep mode.	Should the fixture is not in active use for "standby time", the sleep mode is enabled automatically to make it more stable and safer, sleep time can be customized.
	Lamp has been operating: cool down time insufficient.	Environmental conditions such as extreme temperatures will have the fixture stop working, the lamps will require a period of time to cool and re-establish optimum starting conditions. Restart time varies with the degree of ventilation built into it, ambient temperature, and draft conditions.
	Overheat ballast resulting in premature failure or damaged ballast.	The ballast incorporate internal automatic-resetting thermal protection, which deactivates the ballast should it overheat. Normal operation resumes once the ballast has cooled sufficiently. Burned-out or failing lamps, or high temperatures in or around the fixture, can cause the ballast to overheat, so we need solve the problem and replace components as required.
	Thermostat damaged.	Replace.

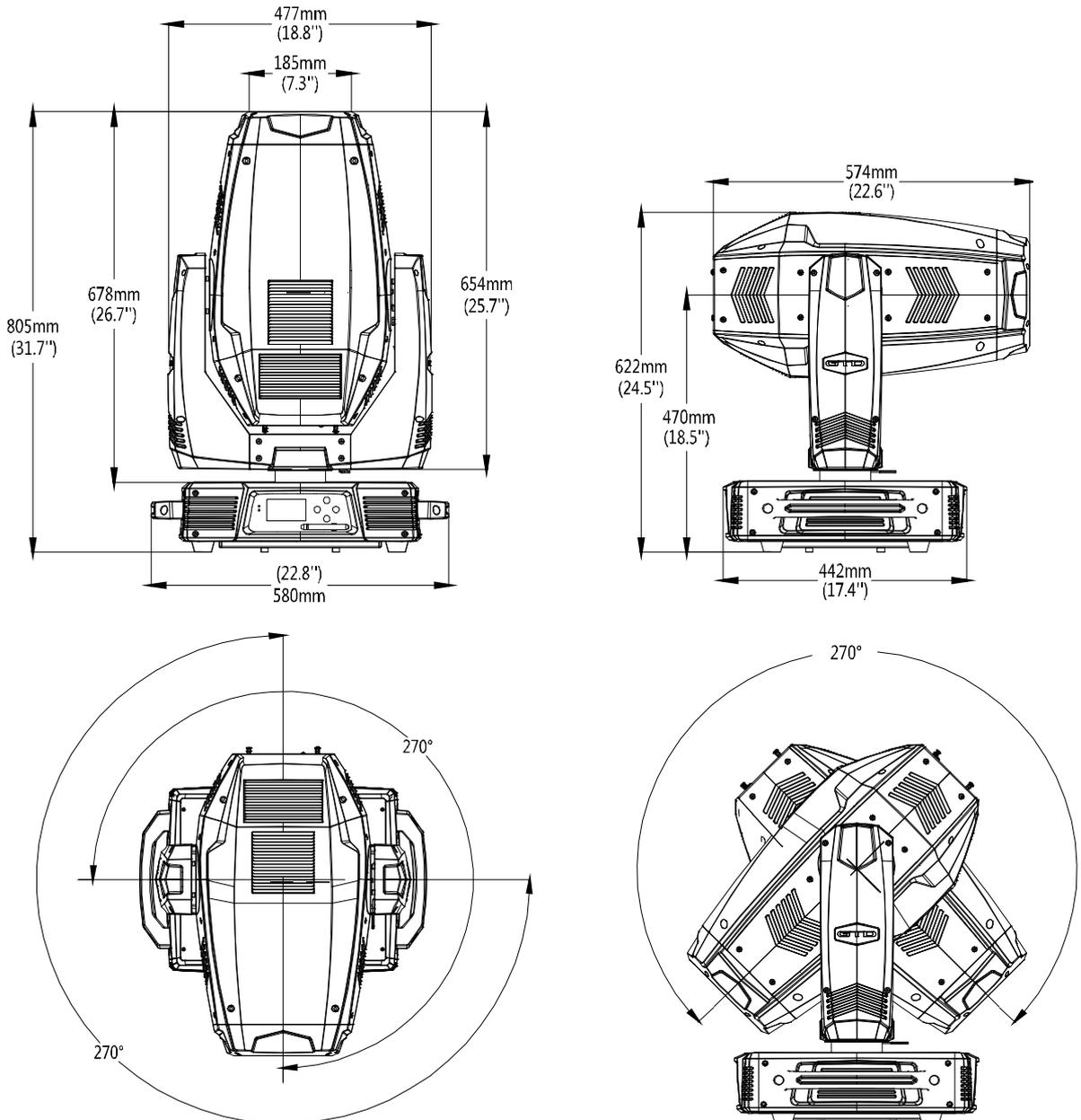| Problem	Possible Cause	Suggested Correction
Shaking, wrong position, and out of control gobo wheel	No function the connector between gobo wheel motor and drive, loose, damaged, or broken cables connecting the gobo wheel and drive.	Reconnect the gobo wheel motor to the drive, and replace cables as required.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

System wiring diagram
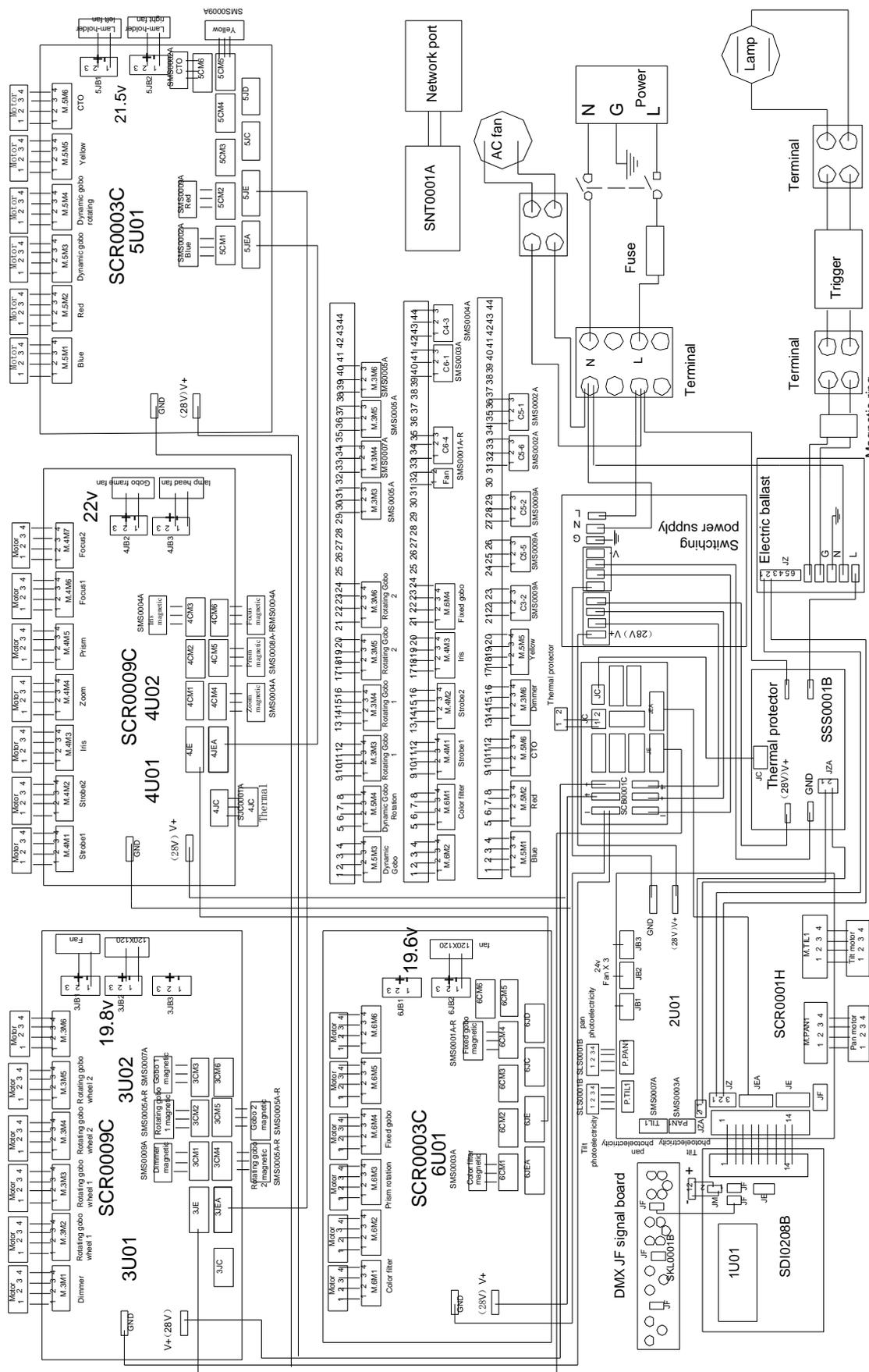
Spare parts list

Item	P/N	Qty	Notes
Switching Power Supply	1412050001A	1	350W
E-ballast	1412020001A	1	1500W
Display board	5809010001I	1	1500SII-U101A51 SDI0208B
Scanning drive board	5809010002G	1	1500SII-U201B51 SCR0001H
Motor drive board 3	5809010003G	1	1500SII-U301B51&1500SII-U302B51 SCR0009C
Motor drive board 4	5809010004G	1	1500SII-U401B51 &1500SII-U402B51 SCR0009C
Motor drive board 5	5809010005G	1	1500SII-U501C51 SCR0003C
Motor drive board 6	5809010006G	1	1500SII-U601C51 SCR0003C

Appendix 1

Notes: