

# Z-Spot 480 IP



## USER MANUAL

Thank you very much for choosing our product. For safety purpose, please read this manual carefully before your operation. The manual included installation and using information. Please install and operate it according to manual.

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# 1. Precautions and installation

## 1.1 Statement

Thank you for choosing our company's products! When this product leaves our factory, the performance is intact and packaging is complete. For your safe and effective use of this product, please read this instruction manual carefully and completely before you using product. This manual contains important information on installation and use. Please install and operate in accordance with the requirements of the manual. At the same time, please keep this manual properly for use at any time. Our company does not assume all responsibility for damage to lights or other performance due to personal failure to follow the instructions during installation, use, and maintenance.

## 1.2 Maintenance

- Disconnect the power supply before maintenance.
- The light should be kept dry and avoid working in a humid environment.
- Intermittent use will effectively extend the life of this light.
- For good ventilation and lighting, pay attention to frequent cleaning of the fan and fan mesh and lens.
- Do not wipe light housing with organic solvents such as alcohol to avoid damage.

## 1.3 Precautions

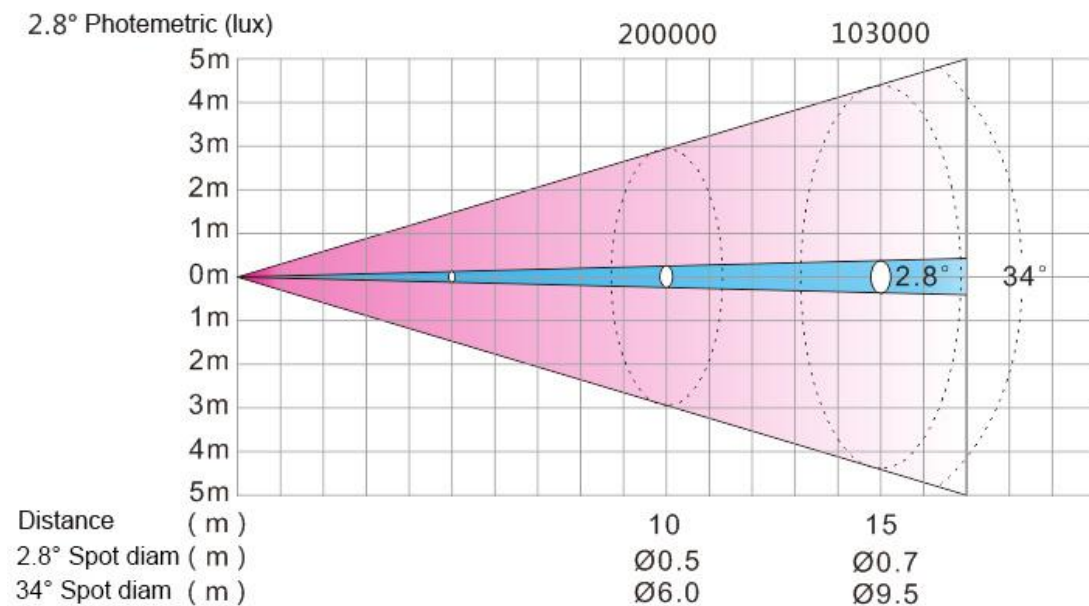
- This light is for professional use only.
- Before running, ensure the power supply voltage matches the power supply voltage required by the light.
- Do not place product in a place prone to loosening or vibration.
- During use, if the light is abnormal, please stop using in time.
- To ensure service life, please do not put this product in damp or leaking places, and do not work in high temperature of 60 degrees Celsius environment.
- When bulb is in use, power supply voltage change should not exceed  $\pm 10\%$ . If the voltage is too high, life of the bulb will be shortened. If the voltage is too low, the light color of the bulb will be affected.
- After power is turned off, the light needs to be fully cooled after 20 minutes before power turn on again.
- The rotating parts and pasting accessories of the light must be checked regularly. If they are loose or shaken, please reinforce in time to prevent accidents.
- In order to ensure normal use of this product, please read this instruction carefully.

## 1.4 Product description

- Light source: Japanese USHIO 450W original lamp
- Power consumption: 650W
- Power supply: AC100~240V, 50/60Hz
- Color temperature: 7650K

- Beam angle:2.8° ~ 34°
- CMY color wheel: 5 fixed colors plus white light + CMY independent color wheel, the washing effect is arbitrarily switched (C:Cyan M:Magenta Y:Yellow)
- Color wheel: 11 colors + white light
- Gobo wheel: 10 fixed gobo +6 white circle
- Glass gobo: 7 glass gobo effects + white light
- Water ripple wheel: Water ripple tempered glass wheel
- Channel Mode:DMX512, 24CH
- Prism:8 facet prism+24 cellular prism
- Display:LCD display
- Dimming:0-100% smooth dimming
- Pan:540°, Tilt:270°,16 bit movement resolution, automatic correction
- Overheating protection
- Control mode: DMX512/RDM/Master-slave/Auto
- Measurement:446x362x752mm
- Net weight:31.5KG
- Work environment: outdoor use,IP65

### 1.4-1 Photometric diagram



### 1.4-2 Color wheel/ Gobo wheel/ Water ripple wheel



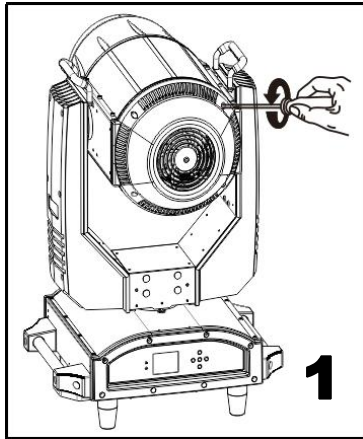
### 1.4-3 Bulb

There is a high pressure inside bulb and a danger of rupture during operation. The ultraviolet rays emitted by bulb are harmful to eyes and skin. Don't look directly at the light when it is working.

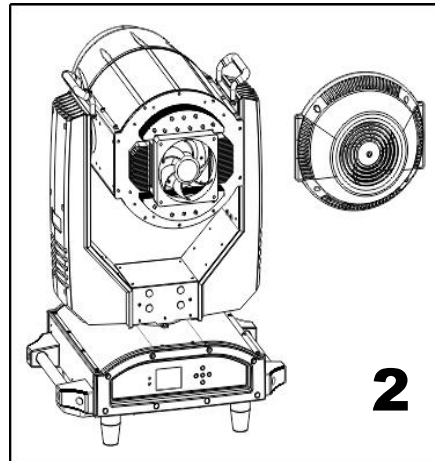
1. To protect light, when turning off light, please turn off the bulb first, run it for at least 5 minutes, then disconnect the power.
2. Don't touch the bulb with bare hands. Once in contact with hands, scrub with alcohol, then dry with a soft burlap.
3. When the light is on, the bulb operates under high pressure, so there is a danger of rupture. The degree of danger is related to factors such as the length of use, temperature, and unreasonable operation and use. Therefore, please don't use bulbs beyond their lifetime.
4. Make sure the bulb is centrally mounted for best effect.

### 1.4-4 Replace bulb

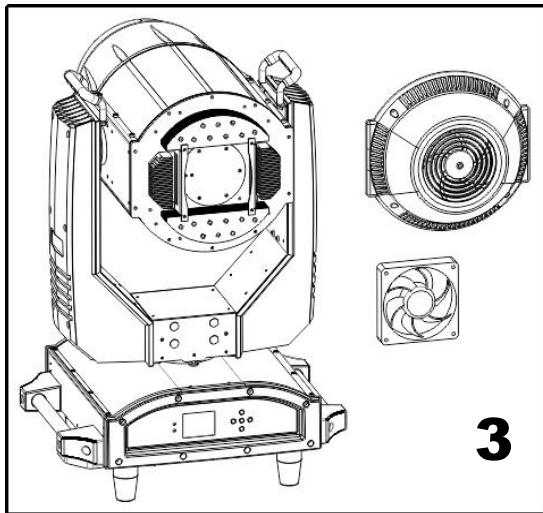
Don't use bulb for over 1500 hours, exceeding the life may damage the bulb. Regularly check runtime, when the bulb usage reaches or approaches 1500 hours, we strongly recommend you to change bulb. The hours of use can be cleared and reset after replacing bulb.



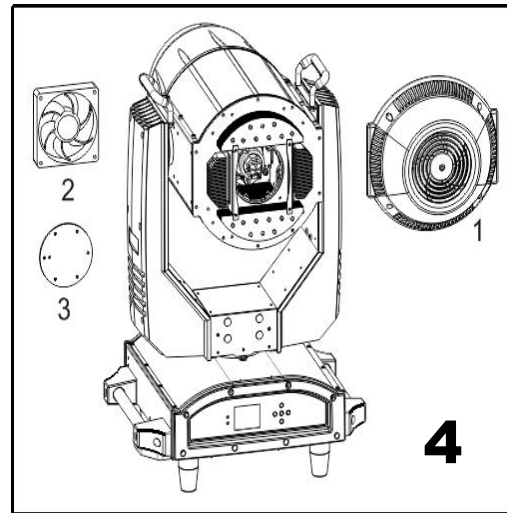
Step 1: Use a screwdriver to unscrew four screws on the head of light back cover



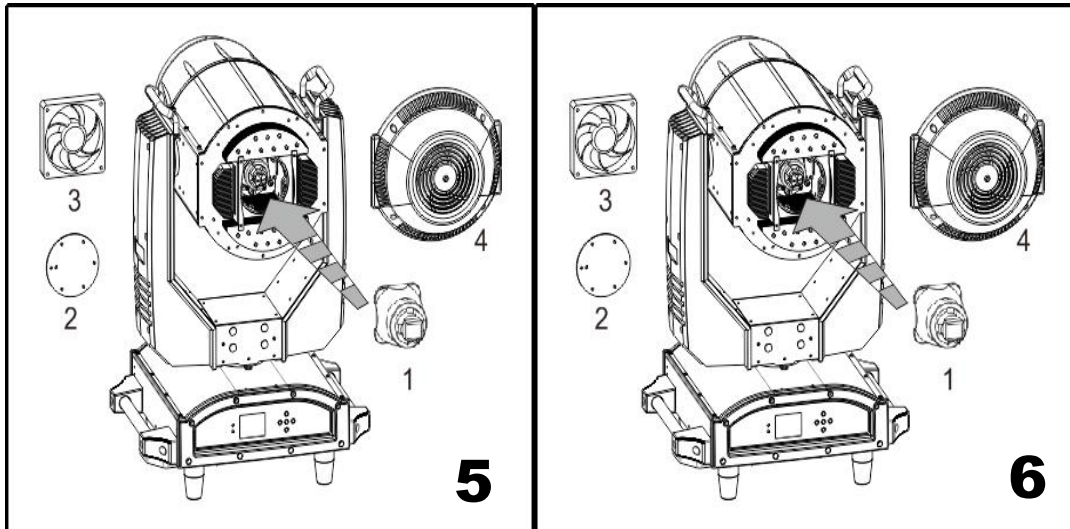
Step 2: Take down the back cover housing



Use a screwdriver or H3 hexagon wrench to unscrew four screws of the fan, remove the fan, and be careful not to pull the cable of fan. The fan must be connected to the lamp body.



Unscrew six screws of the circular lighting barrier with a screwdriver and remove the lighting barrier

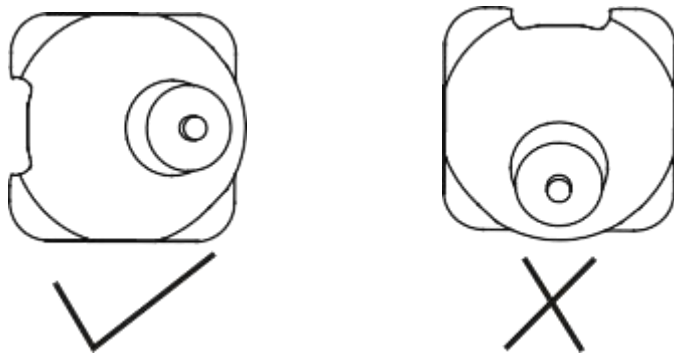


Use a small screwdriver to loosen the screws on the plate of the bulb; put on electrostatic gloves, unplug the light bulb's lead terminal plug, push the two plates of bulb to the top and bottom, and remove the light bulbs that need to be replaced.

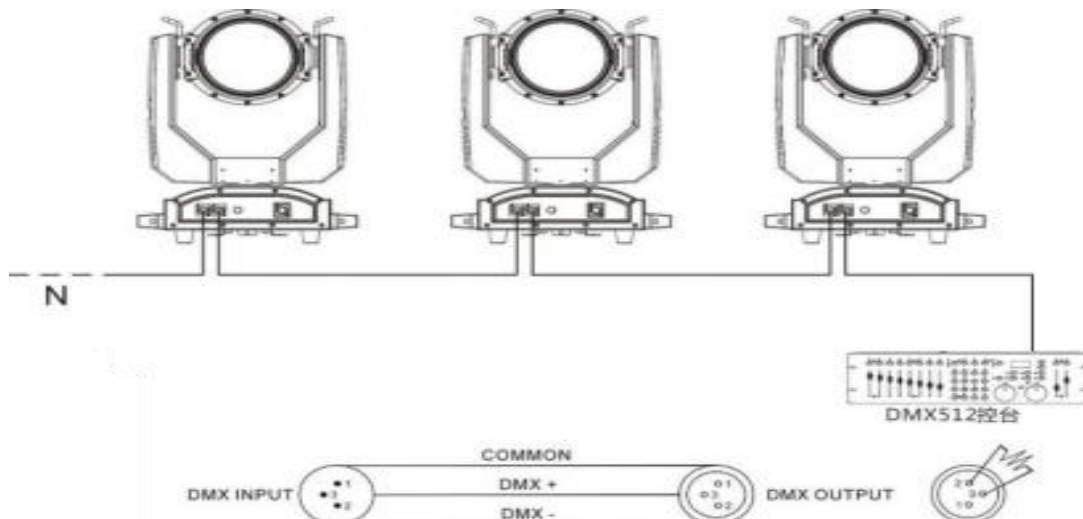
Put a new light bulb, insert the light bulb to the lead terminal plug, then fix the two plate of lamp to the direction of the light bulb, then tighten the screws; and install the circular lighting barrier, fans, and back cover housing .

Notice! All screws must be tightened.

**Warning: Installation direction of bulb as follows:**



### 1.5 Signal cable connection



1.5-1 In order to reduce signal errors and avoid weakening and interference during the transmission process, can add a 120Ω 1/4W resistor between 2 core and 3 core of the DMX output of the last lighting fixture.

1.5-2 Use XLR signal cable to connect lights, one end to the output port of the light, and the input port of the next light. The XLR signal cable can only be used in series and cannot be connected in parallel. DMX512 signal transmission speed is fast. If the signal cable is damaged, the welding is not solid, and the contact is not good, etc., will affect the signal transmission, causing the system to close.

1.5-3 When power supply of a unit is broken, connection between DMX output and input is bypass to maintain the connection of the DMX cable.

1.5-4 Each light must have an address code, which can be received data from light console, the range is between 0-511 (usually 0 & 1 and 1 is same)

1.5-5 The terminal of DMX512 system needs to assemble a terminal to reduce error of signal transmission.

1.5-6

3-pin XLR: PIN 1:GND, PIN 2: negative signal, PIN 3: positive signal

5-pin XLR: PIN 1:GND, PIN 2:negative signal,PIN 3: positive signal, PIN4/PIN5: unused

## **1.6 Installation**

1.The lights can be placed horizontally, obliquely and upside down. Be sure to pay attention to the installation method when hanging it obliquely and upside down.

2.Before positioning light, it is necessary to ensure stability of installation site. When reversing hanging installation, it must be ensured that the light does not fall off the support frame. It is necessary to use a safety rope to pass through support frame and the light handle for auxiliary hanging. To ensure safety, prevent the light from falling and sliding.

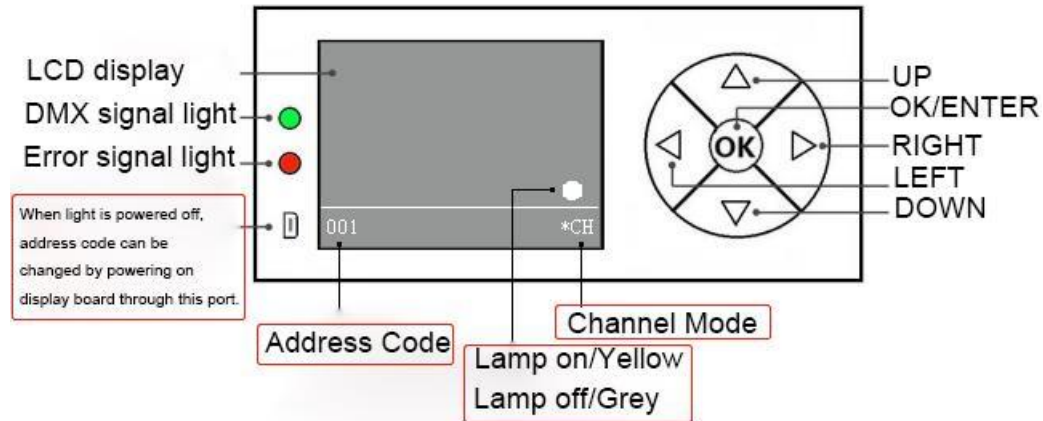
3.During installation and debugging of the lights, pedestrians are prohibited from passing below, and regularly check whether the safety ropes are worn and whether the hook screws are loose.

4.Our company is not responsible for all the consequences caused by the fall of the light due to the unstable hanging installation.



## 2. Display panel operation

### 2.1 Button instruction



"LEFT" : Return

"RIGHT" : It is only useful in the main interface, press "Right" in the main interface to flip the screen, and "Right" button in other interfaces is useless;

"Up" and "Down": Select, Edit

"OK" : Execute functions, start editing, and exit editing

(Note: After reset, it is the main interface, press "OK" to enter the menu interface, and press "Left" to enter address code setting interface.)

### 2.2 Menu instruction

MENU	Direction
EN/中	Switch between Chinese and English
.081↑	Screen flip

001	001~512 Address code setting
Setting	Please see below
Manual	Please see below
System	Please see below

Setting	Run Mode	DMX	Slave state: Receive DMX signal from console or host
		Auto 1	Master state: Auto and send DMX signal to slave
		Auto 2	
		Auto 3	
		Auto 4	
		Random	
		Programme	
	DMX Address	001~512	Press "OK" to enter editing state. At this time, the hundreds digit is selected, press"Up" and "Down" to change address code. Press "OK" to choose address code, press "OK" again to exit editing state
	Channel Mode	24CH	
	Invert Pan	ON/OFF	
	Invert Tilt	ON/OFF	
	Pan-Tilt Swap	ON/OFF	Swap channels Pan/Tilt (including fine tuning)
	Pan-Tilt Encoder	ON	Use encoder (optical coupler) to judge out-of- step and automatically correct position
		OFF	Correct position without encoder (optical coupler)
	No DMX Signal	KEEP	Continue to operate as it is
		CLEAR	The motor returns and stops running
Display	ON	Turn off backlight after 30 seconds of inactivity	
	OFF	Backlight always bright	
	ON	After power is turned on, reset directly,the bulb will automatically light up, and reset will after light bulb is successfully lit.	

	Lamp On@Startup	OFF	Reset directly after power on, the bulb will not automatically light up (Need to turn on lamp by menus control or light console manually)
	Linear color	ON	Color wheel changes linearly
OFF		Color wheel non-linear change,split color change	
Manual	Standard	24CH	
	CH1	Color	0-255
	CH2	C	0-255
	CH3	M	0-255
	CH4	Y...	0-255
	...	...	...
	CH22	Pan Tilt Speed	0-255
	CH23	Reset	
CH24	Lamp Control	ON/OFF	
System	Ver:	XXXX	Version
	Fan Speed	Fan Ctr	ON/OFF
		Fan-A Fan-B	000-255 000-255
	FAN Monitor	Lamp FanA Lamp FanB Exit Fan-A Exit Fan-B AngleX AngleY AngleZ Fan SpeedA Fan SpeedB	
	System Errors		If red ERR indicator light is on,means light is running incorrectly. For details, please refer to Error message. From here, enter sub-interface to view. After checking, press "Clear" button to clear error record.
	Total Fixture Hours		Cumulative usage time (accurate to minutes)
Partial Fixture Hours		Use time since this boot (accurate to minutes)	

Advance	Sensor Monitor	Pan Hall State Tilt Hall State Color Hall ColorC Hall ColorM Hall ColorY Hall Gobo Hall Gobo1 Hall Gobo2 Hall Focus Hall Zoom Hall Prism1 Hall State Prism2 Hall State Pan Codewheel State Tilt Codewheel State Pan Codewheel Step Tilt Codewheel Step	
	Reset Calibration	Pan Calibration Tilt Calibration C M Y Gobo Calibration Gobo1 Calibration Gobo1 Rt Calibration Gobo2 Calibration Focus Calibration Zoom Calibration Dimmer Calibration Prism1 Calibration Prism2 Calibration Frost Calibration	
	Authority Hours	xxxx	

### 3. Channel Function

#### 3.1 Channel table

Channel Mode	24CH	Description
CH1	Color	Color
CH2	C	Cyan
CH3	M	Magenta

CH4	Y	Yellow
CH5	CTO	Color temperature
CH6	RGP	Diffuser
CH7	Strobe	Strobe
CH8	Dimmer	Dimmer
CH9	Gobo	Fixed Gobo
CH10	Gobo1	Glass gobo
CH11	Gobo1 Rt	Glass gobo rotation
CH12	Gobo2	Water ripple
CH13	Fucus	Fucus
CH14	Zoom	Zoom
CH15	Prism	Prism
CH16	Prism Rt	Prism Rotation
CH17	Frost	Frost
CH18	Pan	Pan
CH19	Pan Fine	Pan Fine
CH20	Tilt	Tilt
CH21	Tilt Fine	Tilt Fine
CH22	Pan Tilt Speed	Pan Tilt Speed
CH23	Reset	Reset
CH24	Lamp Control	Lamp Control

**Channel Table(complete version):**

CH	Func.	Value	Effect
1	Color	000-255	Linear change
2	C	000-255	Linear change
3	M	000-255	Linear change
4	Y	000-255	Linear change
5	CTO	000-255	Linear change
6	RGP	000-127 128-255	
7	Strobe	000-003 004-103 104-107 108-207 208-212 213-251 252-255	Shutter off slow→fast Shutter on →(Controlled by dimming channel) Pulse strobe from slow to fast Shutter on →(Controlled by dimming channel) Random strobe from slow to fast Shutter on →(Controlled by dimming channel)

8	Dimmer	000-255	dark→light
9	Gobo	000 - 004	Fixed gobo1
		005 - 009	Fixed gobo2
		010 - 014	Fixed gobo3
		015 - 019	Fixed gobo4
		020 - 024	Fixed gobo5
		025 - 029	Fixed gobo6
		030 - 034	Fixed gobo7
		035 - 039	Fixed gobo8
		040 - 044	Fixed gobo9
		045 - 049	Fixed gobo10
		050 - 054	Fixed gobo11
		055 - 059	Fixed gobo12
		060 - 064	Fixed gobo13
		065 - 069	Fixed gobo14
		070 - 074	Fixed gobo15
		075 - 079	Fixed gobo16
		080 - 084	Fixed gobo1 shake (slow→fast)
		085 - 089	Fixed gobo2 shake (slow→fast)
		090 - 094	Fixed gobo3 shake (slow→fast)
		095 - 099	Fixed gobo4 shake (slow→fast)
		100 - 104	Fixed gobo5 shake (slow→fast)
		105 - 109	Fixed gobo6 shake (slow→fast)
		110 - 114	Fixed gobo7 shake (slow→fast)
		115 - 119	Fixed gobo8 shake (slow→fast)
		120 - 124	Fixed gobo9 shake (slow→fast)
		125 - 129	Fixed gobo10 shake (slow→fast)
		130 - 134	Fixed gobo11 shake (slow→fast)
135 - 139	Fixed gobo12 shake (slow→fast)		
140 - 144	Fixed gobo13 shake (slow→fast)		
145 - 149	Fixed gobo14 shake (slow→fast)		
150 - 154	Fixed gobo15 shake (slow→fast)		
155 - 159	Fixed gobo16 shake (slow→fast)		
160 - 210	Reverse water running (fast→slow)		
211 - 255	Positive water running (slow→fast)		

10	Gobo 1	000 - 009 010 - 019 020 -029 030 -039 040 - 049 050 -059 060 - 069 070 - 079 080 - 089 090 - 099 100 - 109 110 - 119 120 - 129 130 - 139 140 - 149 150 - 200 201 - 255	White light Gobo1 Gobo2 Gobo 3 Gobo 4 Gobo 5 Gobo 6 Gobo 7 Gobo 1 shake (slow→ fast) Gobo 2 shake (slow→ fast) Gobo 3 shake (slow→ fast) Gobo 4 shake (slow→ fast) Gobo 5 shake (slow→ fast) Gobo 6 shake (slow→ fast) Gobo 7 shake (slow→ fast) Positive water running (fast→slow) Reverse water running (slow to fast)
11	Gobo 1 Rt	000-127 128-189 190-194 195-255	Angle adjustment Reverse rotation fast →slow Stop Positive rotation slow →fast
12	Gobo2	000 - 025 026 - 125 126 - 155 156 - 255	White light Water ripple effect wheel shake slightly White light Water ripple effect wheel shake obviously
13	Focus	000-255	Clarity from far to near
14	Zoom	000-255	Clarity from far to near
15	Prism	000-127 127-191 192-255	No Prism1 cut in, Prism2 pop up Prism1 pop up, Prism2 cut in
16	Prism Rt	000-127 128-190 191-192 193-255	Angle adjustment Reverse rotation (fast to slow) Stop Positive rotation (from slow to fast)
17	Frost	000-127 128-255	Cut out Cut in
18	Pan	000-255	540 degree scan horizontally
19	Pan Fine	000-255	1.2 degree fine-tuning horizontally
20	Tilt	000-255	270 degree scan vertically
21	Tilt Fine	000-255	1.2 degree fine-tuning vertically
22	Pan Tilt Speed	000-255	Fast→slow

23	Reset	000-025 026-076 077-090 250-255	Invalid area Effect motor reset Pan/Tilt motor reset Reset all motors
24	Lamp Control	000-099 100-105 200-205	Invalid Turn off lamp Turn on lamp

#### 4. Trouble shoot

For some common faults, corresponding solutions are proposed. Any problems should be handled by professionals. Disconnect the power supply before maintain the light.

Error Description	Analyse	Solutions
No action after power on	Check if power switch is on	Turn on
	Check if fuse is blown	Change
	Check whether the output terminal of the switching power supply is normal	Check power supply
	Check internal cable for poor contact	Reconnect
Light are out of control	Check whether DMX signal cable is connected correctly (if there is no signal input, the green signal light is off)	Reconnect or change
	Check whether address code is correct, and whether DMX mode of the bulb is consistent with light console settings	Reconfirm
	Display panel is damaged.	Change
Lamp off	Lamp is aged or damaged	Change
	Power board error	Check/change
	Loose cable or poor contact.	Reconnect
	Trigger error	Change
	Ballast error	Change
Automatically	Lamp is aged	Change



turn off lamp	Cooling fan is damaged or the wind speed is abnormal	Change
	Check fan power output of the power circuit board	Check/ Change
	Temperature switch is damaged	Change
Gobo wheel is misplaced or not properly controlled	Motor cable is poor contact.	Reconnect
	Corresponding motor driver board error	Re-fix
	Magnetic tube and positioning magnet are misaligned or magnetic sensitivity is damaged	Adjust/ Change
	Motor error	Change
Light effect is weak	Lamp is aged	Change
	Lamp is not centered	Adjust bulb
and light spot is uneven.	The optics are dusty or smudged	Clean
	Broken optics	Change
Impure color	Deterioration of luminous efficacy	Change
	Color filter are dusty or smudged	Clean
	Color filter is demould or damaged	Change
Gobo is not clear	The optics are dusty or smudged	Clean
	Broken optics	Change
Attention! The above analysis is only for reference, non-professionals are not allowed to disassemble light for maintenance		