

# Pro Lights BSW Beam Spot Wash

## 400W LED CMY SPOT



## User Manual

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Thanks for choosing our goods please read this manual carefully before your operating

Thank you for your patronage!

We are confident that our excellent products and service can satisfy you.

For your own safety, please read this user manual carefully before installing the device.

In order to install, operate, and maintain the lighting safety correctly.

We suggest that the installation and operation should be done by the verified technician and follow the instruction strictly.



**CAUTION!**

Keep this device away from rain and moisture!



**CAUTION!**

Unplug mains lead before device's installation, cleaning and maintenance!

Every person involved with the installation, operation and maintenance of this device has to:

-be qualified

-follow carefully the instructions of this manual

## INTRODUCTION

Thank you for having chosen this professional moving head.

You will see you have acquired a powerful and versatile device.

Unpack the device. Inside the carton box you should find:

1. One power in cable
2. One 3 Pin DMX cable(5 Pin optional)
3. Two mounted brackets
4. One safety rope
5. One English user manual

(Flight case, Clamps are optional, please contact your dealer)

Please check carefully that there is no damage caused by transportation. Should there be any questions, please consult your dealer and don't install this device.

## GENERAL GUIDELINES

This device is a lighting effect for a professional use on stages, TV, in discotheques, theaters, etc., The device was designed for indoor use only.

This fixture is only allowed to be operated with the max alternating current which stated in the technical specifications in 6<sup>th</sup> page of this manual.

Lighting effects are not designed for permanent operation. Consistent operation breaks may ensure that the device will serve you for a long time without defects.

Do not shake the device. Avoid brute force when installing or operating the device.

While choosing the installation-spot, please make sure that the device is not exposed to extreme heat, moisture or dust. Please don't project the beam onto combustible substances. The minimum distance between light-output from the projector and the illuminated surface must be more than 0,5 meter.

If you use the quick lock cam in hanging up the fixture, please make sure the quick lock fasteners turned in the quick lock holes correctly.

Operate the device only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the device. Most damages are the result of unprofessional operation.

Please use the original packaging if the device is to be transported.

For safety reasons, please be aware that all modifications on the device are forbidden. If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to short-circuit, burns, electric shock, crash, etc.

## SAFETY INSTRUCTIONS



### CAUTION!

Be careful with your operations. With a dangerous voltage you can suffer a dangerous electric shock when touching wires!

This device has left the factory in perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this user manual.

1. In order to guarantee the product's life, please don't put it in the damp places or even the environment over 60degrees.

2. Always mount this unit in safe and stable matter.

The qualified professionals are allowed to carry out the lamp installation, operation and maintenance, but they must guarantee to operate in strict accordance with the instructions referred to.

#### ▲ Important:

**Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems.**

If the device has been exposed to temperature changes due to environmental changes, do not switch it on immediately. The arising condensation could damage the device. Leave the device switched off until it has reached room temperatures.

This device falls under protection-class I . Therefore it is essential that the device be earthed.

The electric connection must carry out by qualified person.

Make sure the power cord is never crimped or damaged by sharp edges. If this would be the case, replacement of the cable must be done by an authorized dealer.

Always disconnect from the mains, when the device is not in use or before cleaning it. Only handle the power cord by the plug. Never pull out the plug by tugging the power cord. During initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective, it should decrease gradually.

Please don't project the beam onto combustible substances.

If the external flexible cable or cord of this luminaire is damaged, it shall be exclusively replaced by the manufacturer or his service agent or a similar qualified person in order to avoid a hazard.



### CAUTION!

Never touch the device during operation!  
The housing may heat up!



### CAUTION!

Never look directly into the light source,  
As sensitive persons may suffer an epileptic shock.

**Please be aware that damages caused by manual modifications to be the device are not subject to warranty. Keep away from children and non-professionals.**

## CLEANING AND MAINTENANCE

1. To reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.
2. Do not spill water or other liquids into or on to your unit.
3. During long periods of non-use, disconnect the unit's main power.
4. It should be installed in a well-ventilated place, at a distance of 50 centimeters or more with the walls. At the same time, please check if the fan and ventilation holes are unobstructed.

The following points have to be considered during the inspection

- 1) All screws for installing the devices or parts of the device have to be tightly connected and must not be corroded.
- 2) There must not be any deformations on the housing. Fixations and installations spots(ceiling, suspension, trussing).
- 3) Mechanically moved parts must not show any traces of wearing and must not rotate with unbalances.
- 4) The electric power supply cables must not show any damage, material fatigue or sediments. Further instructions depending on the installation spot and usage have to be adhered by a skilled installer and any safety problems have to be removed.



### CAUTION!

Disconnect from mains before starting maintenance operation!

In order to make the lights in good condition and extend the life time, we suggest a regular cleaning to the lights.

- 1) Clean the inside and outside lens each week to avoid the weakness of the lights due to accumulation of dust.
- 2) Clean the fan each week.
- 3) A detailed electric check by approved electrical engineer each three month, make sure that the circuit contacts are in good condition, prevent the poor contact of circuit from overheating.

We recommend a frequent cleaning of the device. Please use a moist, lint-free cloth. Never use alcohol or solvents.

## **TECHNICAL PARAMETERS**

### **POWER SUPPLY**

Input voltage: AC110V-240V/50-60HZ

Power consumption: 430W

### **LIGHT SOURCE**

Light source specification: Imported new LED Module engine 400W

Light source life: 50000 hours

Lumen illuminance: 5 meters 580,000 lm

Color temperature: 8000K CRI>95

### **OPTICS**

Dimming system: 0-100% linear adjustment

Focusing system: linear adjustment from 4 meters to 50 meters

Frost: 1 independent frost filter, soft and natural light spot

Spot zoom angle: 4-35 degrees

Wash angle: 10-50 degrees

High-speed strobe: 0-30 times/sec. Adjustable speed strobe effect. Strobe macro function.

### **CONTROL AND PROGRAMMING**

Channel mode: 23 channels

Display mode: LCD display, key + touch dual operation mode

Control signal: International standard DMX512. With RDM function, online software upgrade is available, dial address code

### **EFFEC SECTION**

Color: 8 colors + open. Color half-color function

Color mixing system: linear CMY+CTO color mixing system

Fixed gobos: 12 fixed patterns + open

Rotating gobos: 7 glass patterns, each glass pattern can be independently forward and reverse

Prism system: standard single 3-facet prism and 8 prism, each prism can be independently forward and reverse

Macro function: console reset function, self-propelled mode, master-slave mode

### **MOVING BODY**

Horizontal scan: 540 degrees (16bit precision scan) electronic error correction

Vertical scanning: 270 degrees (16bit precision scanning) electronic error correction

Cooling method: Adopt axial fan to enhance cooling

Safety device: with electronic temperature control overheating protection, electronic temperature control automatic power-off protection when the overheating system fails

Appearance material: high temperature resistant plastic

Working environment: -20 degrees - 40 degrees

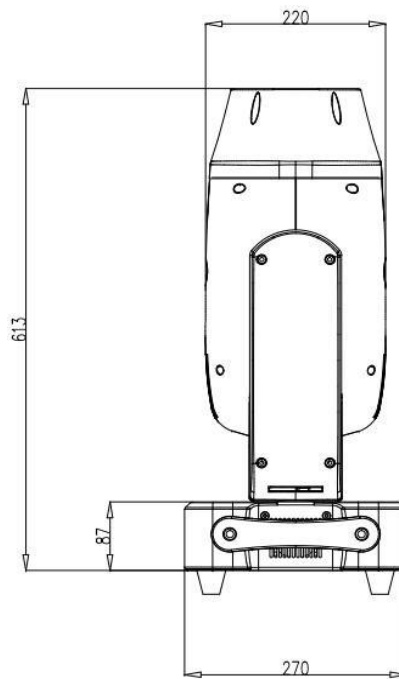
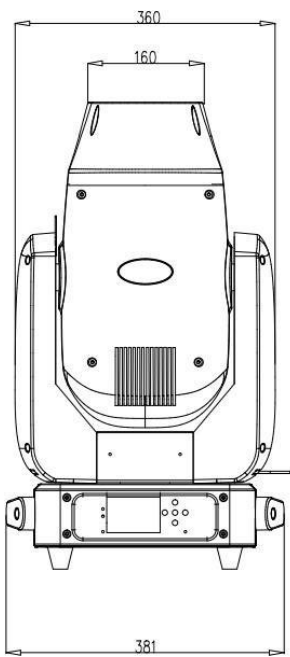
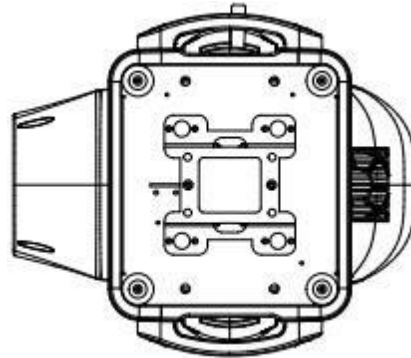
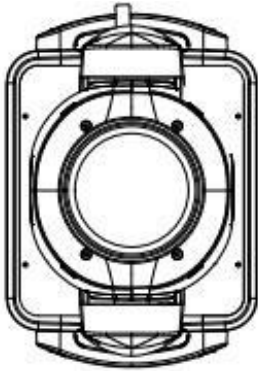
Protection level: IP20

### **WEIGHT&DIMENSION**

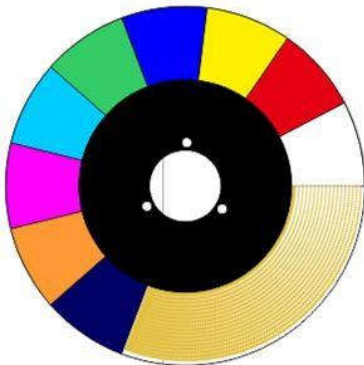
Product net weight: 22.5KG

Product size: 38\*27\*65CM (L\*W\*H)

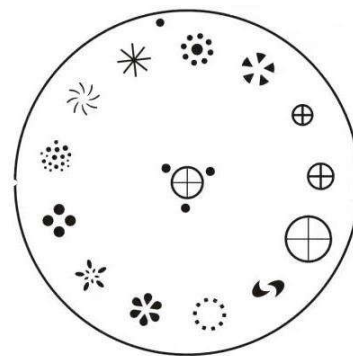
## DRAWING



## COLOR WHEEL

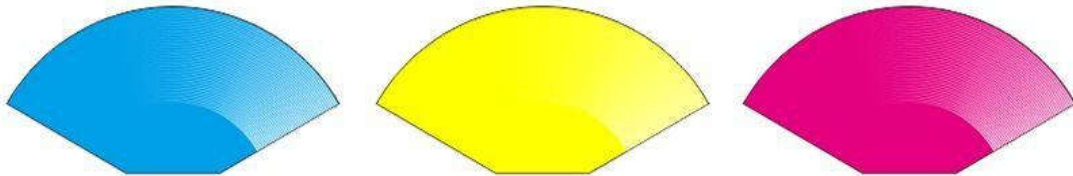


## FIXED GOBO WHEEL



## ROTATING GOBOS - optional

### CMY FILTER



### CHANNEL LIST

23CH	FUNCTION	VALUE	DESCRIPTION
CH1	PAN	0-255	0-540 Degree
CH2	PAN FINE	0-255	0-2 Degree
CH3	TILT	0-255	0-270 Degree
CH4	TILT FINE	0-255	0-1 Degree
CH5	P/T SPEED	0-255	From fast to slow
CH6	DIMMER	0-255	0-100% Dimmer
CH7	STROBE	0-3	Dark
		4-103	Slow strobe to fast strobe
		104-107	White
		108-207	Slow strobe to fast strobe (mode 2)
		208-212	White
		213-251	Free strobe
		252-255	White
CH8	COLOR	0-9	White
		10-19	Color 1
		20-29	Color 2
		30-39	Color 3
		40-49	Color 4
		50-59	Color 5
		60-69	Color 6
		70-79	Color 7
		80-89	Color 8
		90-99	White+Color 1
		100-109	Color 1+Color 2

		110-119	Color 2+Color 3
		120-129	Color 3+Color 4
		130-139	Color 4+Color 5
		140-149	Color 5+Color 6
		150-159	Color 6+Color 7
		160-169	Color 7+Color 8
		170-179	Color 8+Color 9
		180-215	Fast to slow positive rainbow
		216-220	Stop
		221-255	Slow to fast negative rainbow
CH9	CTO	0-255	0-100%
CH10	C	0-255	0-100%
CH11	M	0-255	0-100%
CH12	Y	0-255	0-100%
CH13	FIXED GOBO	0-4	White
		5-9	Gobo 1
		10-14	Gobo 2
		15-19	Gobo 3
		20-24	Gobo 4
		25-29	Gobo 5
		30-34	Gobo 6
		35-39	Gobo 7
		40-44	Gobo 8
		45-49	Gobo 9
		50-54	Gobo 10
		55-59	Gobo 11
		60-64	Gobo 12
		65-69	Gobo 1 shaking slow to fast
		70-74	Gobo 2 shaking slow to fast
		75-79	Gobo 3 shaking slow to fast
		80-84	Gobo 4 shaking slow to fast
		85-89	Gobo 5 shaking slow to fast
		90-94	Gobo 6 shaking slow to fast
		95-99	Gobo 7 shaking slow to fast
		100-104	Gobo 8 shaking slow to fast
		105-109	Gobo 9 shaking slow to fast
		110-114	Gobo 10 shaking slow to fast
		115-119	Gobo 11 shaking slow to fast
120-127	Gobo 12 shaking slow to fast		
128-190	Fast to slow positive rainbow		
191-192	Stop		
193-255	Slow to fast negative rainbow		
CH14	ZOOM	0-255	From big to small
CH15	FOCUS	0-255	From far to near
CH16	ROT GOBO	0-9	White

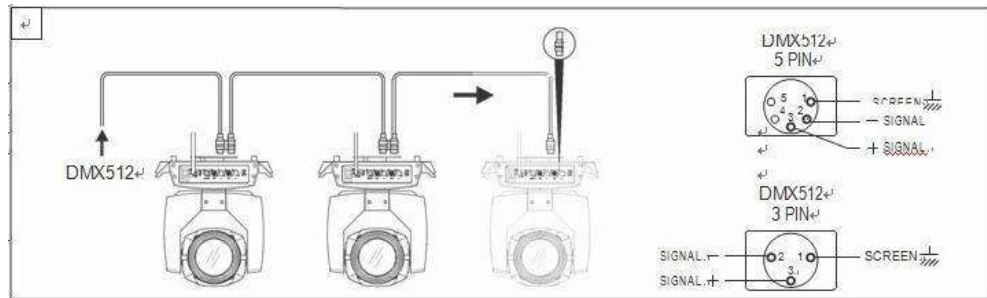
		10-19	Gobo 1
		20-29	Gobo 2
		30-39	Gobo 3
		40-49	Gobo 4
		50-59	Gobo 5
		60-69	Gobo 6
		70-79	Gobo 7
		80-89	Shake slow to fast GOBO1
		90-99	Shake slow to fast GOBO2
		100-109	Shake slow to fast GOBO3
		110-119	Shake slow to fast GOBO4
		120-129	Shake slow to fast GOBO5
		130-139	Shake slow to fast GOBO6
		140-149	Shake slow to fast GOBO7
		150-199	Rotate forward (fast to slow)
		200-255	Rotate reverse (slow to fast)
CH17	GOBO ROTATING	0-127	0-360 degrees
		128-187	Rotate forward (fast to slow)
		188-195	Stop
		196-255	Rotate reverse (slow to fast)
CH18	PRISM 1	0-127	Close
		128-255	Open
CH19	PRISM 1 ROT	0-127	0-400 degree
		128-187	Fast to slow positive rainbow
		188-195	Stop
		196-255	Slow to fast negative rainbow
CH120	PRISM 2	0-127	Close
		128-255	Open
CH21	PRISM 2 ROT	0-127	0-400 degree
		128-187	Fast to slow positive rainbow
		188-195	Stop
		196-255	Slow to fast negative rainbow
CH22	FROST	0-127	No function
		128-255	Frost
CH23	RESET	001-109	Null
		110-209	Null
		210-215	3 seconds to reset X Y motors
		220-235	3 seconds to reset motors
		240-255	3 seconds to reset all

## Cable connection (DMX)

Use a cable conforming to specifications EIA RS-485: 2-pole twisted, shielded, 120 Ohm characteristic impedance, 22-24 AWG, low capacity. Do not use microphone cable or other cable with characteristics differing from those specified. The end connections must be made using XLR type 3 or 5-pin male/female connectors. A terminating plug must be inserted into the last projector with a resistance of 120 Ohm (minimum 1/4 W) between terminals 2 and 3.

**IMPORTANT:** The wires must not make contact with each other or with the metal casing of the connectors. The casing itself must be connected to the shield braid and to pin 1 of the connectors.

Figure 1 DMX Cable connection



## Rigging (Optional)

This equipment can be positioned and fixed by clamp in every direction of the stage. Locking system makes it easy to fasten to the bracket.

Attention! Two clamps is needed to fix the equipment. Every clamp is locked by fastener of 1/4 kind. Fastener can only be locked clockwise.

Attention! Fasten a safety string to the additional hole of side aluminum piece. The secondary accessory can not hang on the delivery handle. Nip the equipment on bracket.

- Check if rigging clamp (not including the one inside) damaged or not? If stand ten times weight as the equipment. Make sure the architecture can stand ten times weight as all the equipments, clamps, wirings and other additional fixtures.
- Screws for clamping must be fixed firmly. Take one M12 screw (Grade 8.8 or higher) to clamp bracket, and then screw the nuts.
- Level the two hanging points at the bottom of clamp. Insert fastener to the bottom, lock the two levers by 1/4 rotating clockwise; then install another clamp.
- Install on safety string which stands at least ten times weight as equipment. Terminal of the accessory is designed for clamps.
- Make sure pan/tilt lock unlocked or not. Keep the distance more than 1M from equipment to flammable material or lighting source.

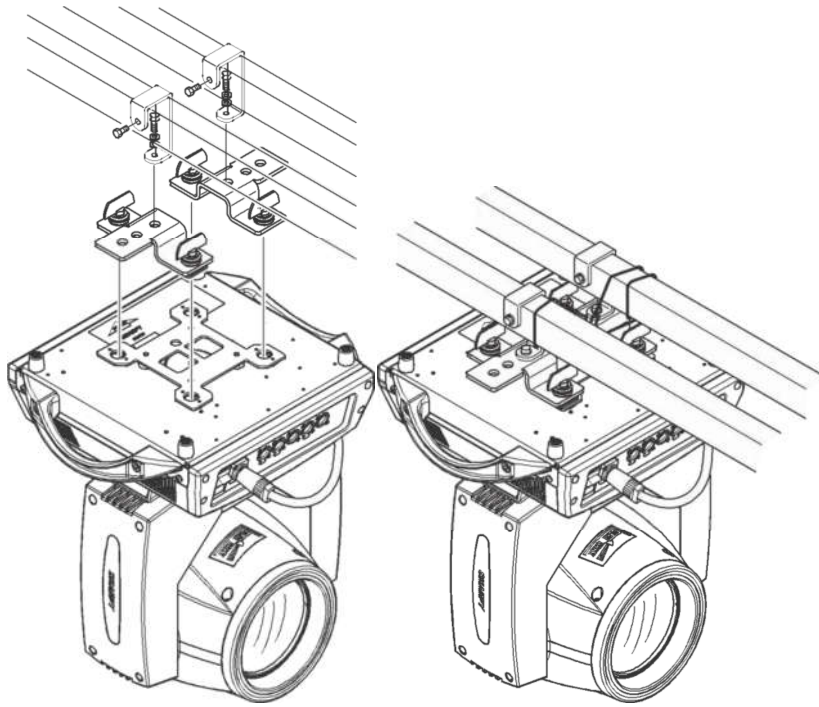


Figure 2 Installation

## Brief

The light panel diagram show as Figure 3, Left area is TFT Displayer, support touch, and right area is KEY, both of touch and KEY can operate light and setting.

Display & operation just like 'Android operation system', touch the item will set or modify setting.

Note: Prevent damage the touch or TFT displayer, Can not use sharp objects chick displayer.

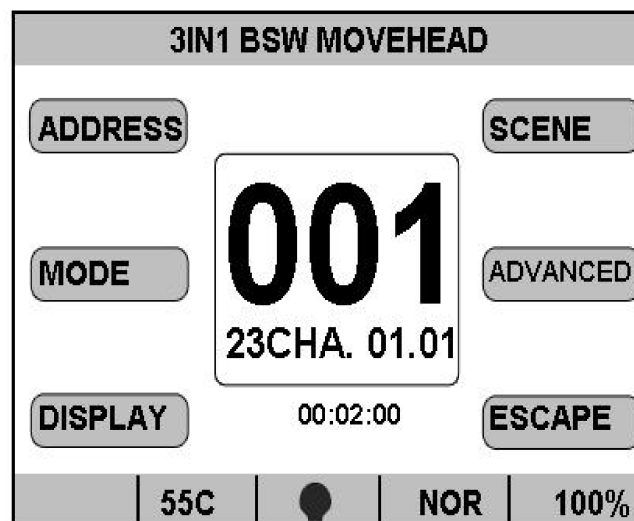


Figure 3 Panel diagram

## 2.2 Operation

### 2.2.1 Operate light with touch or KEY

- The left area is TFT Displayer and touch, chick item or value with finger will to complete operation of set light setting(parameters) or view light state.
- The area on the right hand side is 4 KEY, As auxiliary input interface, if disable touch

function,, the KEYr can be choose to set the parameter.

### 2.2.2 Parameter value setting

When the selected item is value need to been modified, the dialog shown in Figure 4 will popup.

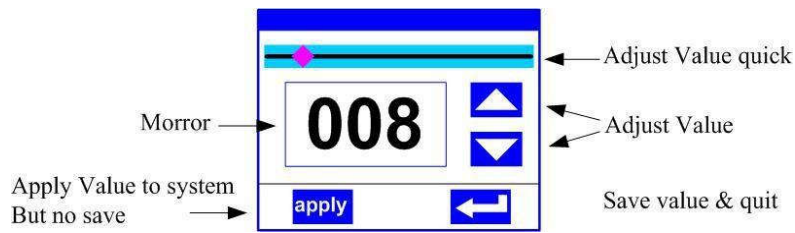


Figure 4 Dialog of value setting

- **Modify value:** Can quickly modify value via pull the slider to the desired position, or click the button of 'up' or 'down' whit finger on the right side to set the exact desired value, another way is roll encoder on the right hand side of panel.
- **Apply value:** When Value had been modified, Then press the bottom of 'apply' in the left corner to apply to the light, but hav't saved:
- **Save Value:** Any time, click on the lower right corner of the "OK" button, the setting will been saved into internal memory.

### 2.2.3 Boolean parameter setting

- when the selected parameters is a Boolean value (such as ON or OFF), can directly modify setting by chick corresponding item, the setting will been saved right now.
- When the parameter is a key item, chick corresponding item, a dialog shown in Figure 5 will been popup ask for the confirm. Chik 'sure' to confirm.

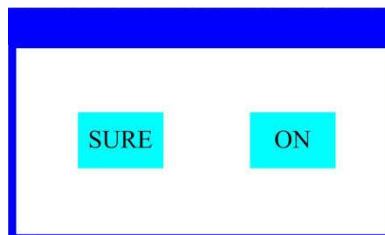


Figure 5 Dialog of confirm

### 2.2.4 Sub Menu (Parameter)

Chick item of main menu, enter corresponding sub menu, shown in Figure 6, total 6 sub menu, includes class of parameter and status:

- **ADDRESS:** Set light DMX address.
- **WORKMODE:** Set light work mode, master or slave mode when in auto run mode.
- **DISPLAY:** Set display parameter, eg. select language.
- **SCENE:** Scene Select, modify DMX channel data to test function, the corresponding function of reference channel function table.
- **ADVANCE:** Set light running parameter.
- **STATUS:** view light current status.

Address		
WorkMode	001	Previous
Display	23CHA. 01.01	Next
Scene		
Advanced		
Status		
Escape	Channel	SysRst

Address	DMX Ctrl	
WorkMode	Auto Run	
Display	Sound Ctrl	
Scene	Scene Mode	Auto
Advanced	M/S Choose	Auto
Status		
Escape		

Address	语言	English
WorkMode	Screen saver	Mode 3
Display	Screen Rot	Auto
Scene	DMX Indicate	Mode3
Advanced	Screen Light	010
Status	Touch Enable	ON
Escape	Touch Rectify	

Address	Scene Select	1
WorkMode	Scene Time	0.0s
Display	Control Mode	OFF
Scene	01. Pan	000
Advanced	02. Pan Fine	000
Status	03. Tilt	000
Escape	04. Tilt Fine	000

Address	Pan Invert	OFF
WorkMode	Tilt Invert	OFF
Display	P/T Rectify	ON
Scene	Pan Offset	010
Advanced	Tilt Offset	010
Status	Data hold	ON
Escape	Factory Setting	

Address	Stepper info	
WorkMode	Error Logging	
Display	Fixture Status	
Scene	Version	H2.12
Advanced	Light time	24:00
Status	Total time	24:00
Escape		

Figure 6 Parameter menu

## Operation and parameter instruction

Via following operation, enter sub menu(parameter menu) shown in Figure 6

- In main menu, click 1/6 function button into corresponding parameter menu.
- In sub menu(page), click main item on the left side of displayer, can shift to corresponding sub menu(page) quickly.

### 2.3.1 ADDR--> Address: Set DMX Address

Click and select the "ADDR", can enter the page of DMX address setting, range from 1 to 512, the address code shouldn't is not greater than (512- channels quantity), otherwise the light will not be controlled. Following is the operation:

Enter the page of DMX address, as shown in Figure 7, click the blank area in right side of display will pop-up dialog as in Fig. 4, modify value, then click 'ENTER' to confirm and save DMX address code.

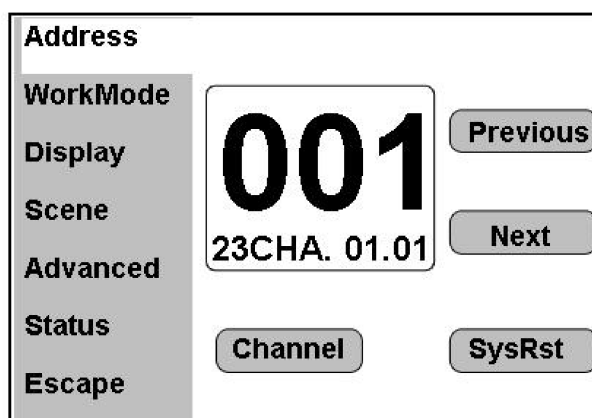


Figure 7 page of DMX Address

### 2.3.2 MODE--> WorkMode: Set Light work mode

Enter the page of 'WorkMode' as shown in Figure 8 and modify setting. Can set light work mode, control lamp and DMX channel mode.

<b>Address</b>	<b>DMX Ctrl</b>	
<b>WorkMode</b>	<b>Auto Run</b>	
<b>Display</b>	<b>Sound Ctrl</b>	
<b>Scene</b>	<b>Scene Mode</b>	<b>Auto</b>
<b>Advanced</b>	<b>M/S Choose</b>	<b>Auto</b>
<b>Status</b>		
<b>Escape</b>		

Figure 8 page of work mode

- ◆ **DMX Ctrl:** Choose to set DMX Mode,
- ◆ **Auto Run:** Choose to set Auto Mode,
- ◆ **Sound Ctrl:** Choose to set Sound Mode,
- ◆ **M/S Choose:** Available just in 'AUTO RUN' or 'SOUND Ctrl' mode.  
ON--> Master. (Data will be send to other slave lamp immediately.)  
OFF--> Slaver.(NOT send data to other lamp via DMX Cable).(Default)
- ◆ **Light Switch:**  
ON--> Turn on the light,  
OFF--> Turn off the light.

**DISP-->DISPLAY: Set display**

Light support 2 language, rotation display , Enter page as shown in Figure9 to set parameter following:

<b>Address</b>	语言	<b>English</b>
<b>WorkMode</b>	<b>Screen saver</b>	<b>Mode 3</b>
<b>Display</b>	<b>Screen Rot</b>	<b>Auto</b>
<b>Scene</b>	<b>DMX Indicate</b>	<b>Mode3</b>
<b>Advanced</b>	<b>Screen Light</b>	<b>010</b>
<b>Status</b>	<b>Touch Enable</b>	<b>ON</b>
<b>Escape</b>	<b>Touch Rectify</b>	

Figure9 page of display

- ◆ **Language:** English / 中文.
- ◆ **Screen Saver:** when panel is idle(these is no operation in 10 second), displayer will enter saver status.  
OFF--> No screen saver.  
Mode1--> Power-saving mode, turn off the display.  
Mode2--> Displays the current address.  
Mode3--> Displays the icon and the current working mode.(Default)
- ◆ **Screen Rotion: To turning display.**  
ON--> Normal display.(Default)

OFF--> 180° turning display.

◆ **Touch enable:** Disable or enable touch function,.

ON--> Enable touch function.(Default)

OFF--> Dosable touch function.

◆ **Touch adjust:** Adjust touch function. Normally, not enter this item.

### 2.3.4 SCENE

Enter the page as shown in Figure 10, Light will into test mode, in this mode, the light does not receive the data for DMX controller.:

<b>Address</b>	<b>Scene Select</b>	<b>1</b>
<b>WorkMode</b>	<b>Scene Time</b>	<b>0.0s</b>
<b>Display</b>	<b>Control Mode</b>	<b>OFF</b>
<b>Scene</b>	<b>01. Pan</b>	<b>000</b>
<b>Advanced</b>	<b>02. Pan Fine</b>	<b>000</b>
<b>Status</b>	<b>03. Tilt</b>	<b>000</b>
<b>Escape</b>	<b>04. Tilt Fine</b>	<b>000</b>

Figure 10 page of Test

◆ **PAN:** range for 0 to 255;

◆ **TILT:** range for 0 to 255;

◆ **FOCUS:** range for 0 to 255;

◆ **COLOR:** range for 0 to 255;

◆ **GOBO:** range for 0 to 255;

◆ **PRISM:** range for 0 to 255;

◆ **FROST:** range for 0 to 255;

◆ **STROBE:** range for 0 to 255;

### 2.3.5 ADVA-->Advanced: Set light run parameter

Enter the page as shown in Figure 10, set the parameter of light:

<b>Address</b>	<b>Pan Invert</b>	<b>OFF</b>
<b>WorkMode</b>	<b>Tilt Invert</b>	<b>OFF</b>
<b>Display</b>	<b>P/T Rectify</b>	<b>ON</b>
<b>Scene</b>	<b>Pan Offset</b>	<b>010</b>
<b>Advanced</b>	<b>Tilt Offset</b>	<b>010</b>
<b>Status</b>	<b>Data hold</b>	<b>ON</b>
<b>Escape</b>	<b>Factory Setting</b>	

Figure 11 page of run parameter

◆ **Pan Invert:** Reverse PAN move

OFF--> Pan Normal move.(Default)

ON--> Reverse PAN move.

◆ **Tilt Invert:** Reverse TILTmove

- OFF--> Tilt Normal move.(Default)
- ON--> Reverse Tilt move.
- ◆ **P/T Rectify: Disable or enable position rectify function.**
  - OFF--> Disable P/T rectify
  - ON--> Enable P/T rectify-(Default)
- ◆ **Pan Offset:** Set PAN original position. **Default: 10**
- ◆ **Tilt Offset:** Set TILT original position. **Default: 10**
- ◆ **Lamp when:**
  - PowerON--> Turn on the lamp when power on.(Default)
  - RstDone--> Turn on the lamp after reset.
  - Manual--> Manually turn on the lamp.
- ◆ **Data hold:**
  - OFF--> When no DMX signal,return to middle position.(Default)
  - ON--> When no DMX signal,stop in the final position.
- ◆ **Factory Setting:** Restore all parameter to factory setting.

### 2.3.6 STAT-->Status: View status

Enter the page as shown in Figure 12:

<b>Address</b>	<b>Stepper info</b>	
<b>WorkMode</b>	<b>Error Logging</b>	
<b>Display</b>	<b>Fixture Status</b>	
<b>Scene</b>	<b>Version</b>	<b>H2.12</b>
<b>Advanced</b>	<b>Light time</b>	<b>24:00</b>
<b>Status</b>	<b>Total time</b>	<b>24:00</b>
<b>Escape</b>		

Figure 12 page of status

- ◆ **Stepper Info:** Show Stepper information.
- ◆ **Error Logging:** Show the current address.
- ◆ **Version:** Show the version of the lamp.
- ◆ **Light Time:** Working hours after turn on.
- ◆ **Total Time:** Cumulative hours of operation

## Use Attention

### 1. Common fault handling

The lamp contains professional components such as microcomputer circuit board and high-voltage power supply. For your safety and product life, non-professionals should not disassemble the lamp and related accessories without authorization.

1. The bulb does not light up (except LED light source)

Possible cause: The bulb is not completely cooled, or the bulb has reached the end of its life, the treatment is as follows:

- Due to abnormal operation, the bulb is not completely cooled down, so let the lamp body cool down for more than 10 minutes to make the inside completely return to normal state, and then turn on the power again.;
- Check whether the bulb has reached the end of its life, and replace it with a new one;
- Check whether the bulb and the lighter circuit are leaking, falling off, or having poor contact;
- Replace with a new lighter.

2. The light beam appears dim

Possible cause: The bulb has been used for a long time or the light path is not clean, the treatment is as follows:

- Check whether the bulb has reached the end of its life, and replace it with a new one;
- Check whether the optical components or bulbs are clean, and whether there is dust on the bulbs and other optical components. Regular cleaning and maintenance of the bulbs and components in the lamps are required.

3. Fuzzy pattern projection

- Check whether the electronic focus channel value is suitable for the current projection distance.

4. The lamps work intermittently

Possible cause: The internal circuit enters the protection state, and the treatment is as follows:

- Check whether the fan is operating normally or whether it is dirty, causing the internal temperature of the lamp to rise;
- Check whether the internal temperature control switch is closed;
- Check whether the bulb has reached the end of its service life, and replace it with a new one.

5. After the lamp is reset normally, it does not accept the control of the console

Possible cause: signal line failure or abnormal lamp parameter setting, the treatment is as follows:

- Check the start address code and check the connection of the DMX signal line (whether the signal line cable is intact, and whether the connection of the head is loose);
- Add signal amplifier, add 120 ohm terminal resistance;

6. The lamp can't start

Possible cause: bad power line, the treatment is as follows:

- Check whether the fuse on the power input socket is fused, replace the fuse;
- Lamps have poor line contact due to vibration during long-distance transportation
- Check the input power, computer board and other plug-in devices.

## 2. Precautions for use

- Check whether the local power supply meets the requirements of the rated voltage of the

product, and the leakage protector, overcurrent protector, etc. meet the requirements of the load;

- Do not use power cords with damaged insulation, and do not overlap power cords with other wires;
- The lamp adopts strong air cooling, which is easy to accumulate dust. It must be cleaned once a month, especially the heat dissipation vent, otherwise it will be blocked by the accumulation of dust, resulting in poor heat dissipation and abnormalities in the lamp.
- When installing the lamp, the fixing screws must be fastened, with safety cables, and regular inspections:
- When installing and positioning the luminaire, keep a minimum distance of 10 meters between any point on the surface of the luminaire and any flammable and explosive object, and the distance from the irradiated object is 2.5 meters. Please do not install the luminaire directly on the surface of combustible materials.;
- It is recommended that the continuous working time of the lamp should not exceed 10 hours, and the interval between continuous starting of the lamp should not be less than 10 minutes, otherwise it will not be triggered normally due to the lamp overheating protection;
- The closing time using the on-off valve should not exceed 5 minutes. If you need to close the light for a long time, you should use the console (lighting control channel) to turn off the light.;
- In order to ensure that multiple luminaires better comply with the scene effect, the luminaire should not be in the unfinished current scene all the time, that is, start the next scene action, it is best not to exceed 3 minutes in this state to ensure that multiple luminaires can run simultaneously;
- During use, if there is an abnormality in the lamp, stop using the lamp in time to prevent other malfunctions.

### **3. Precautions for using RDM**

RDM is an extended version of the DMX512-A protocol. It is a remote device management protocol. The traditional DMX512 protocol communication is one-way communication. The protocol is based on the RS-485 bus. RS-485 is a time-sharing multi-point, half-duplex protocol. Only allowed at the same time One port is the output of the host, so, pay attention to the following points when using RDM:

- To use a console or host device that supports the RDM protocol host;
- To use a two-way signal amplifier, the traditional one-way signal amplifier is not suitable for the RDM protocol, because the RMD protocol requires feedback data, and the use of a one-way amplifier will block the returned data, resulting in the search for lamps and lanterns;
- All lamps must be set to DMX mode to ensure that there is only one host on the signal line;
- A 120ohm impedance matching resistor must be inserted between terminals 2 and 3 of the terminal plug. When the signal line is relatively long, the use of differential signals will be more stable when the signal line is relatively long, which is conducive to the quality of communication;

When it appears that the lamp accepts DMX control, but cannot search for the lamp by RDM, first check the signal amplifier, and then check whether there is a bad connection between the 2 and 3 lines of the signal line.



**REMARK**

The product has perfect performance and integrity packing. All users should be strictly comply with the warning and operating instructions as stated. Or we aren't in charge of any result by misusing.

Any damage resulting by misuse is not within the Company's warranty.

Any fault or problem caused by neglecting the manual is also not in the charge of dealers.

Errors and omissions for every information given in this manual excepted.

All information is subject to change without prior notice.