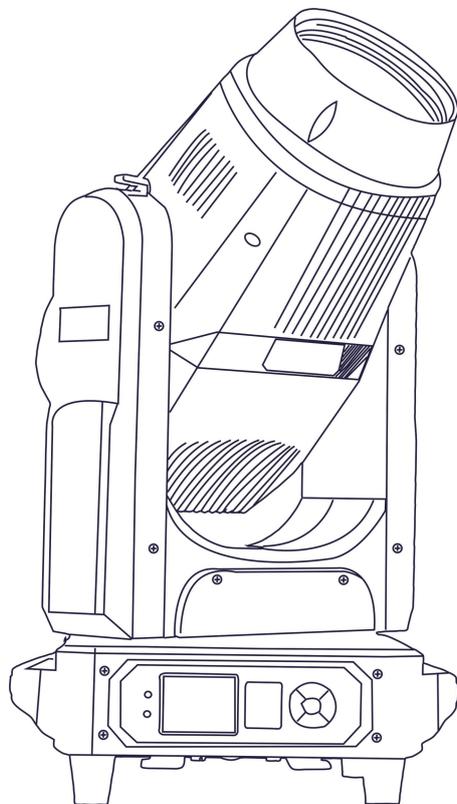


500W MOVING HEAD LED

USER MANUAL



Please read over this manual before operation the light

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Chapter 1 Installation and attention

1.1 Maintenance

- To reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.
- Intermittently using will extend this item's service life.
- Please clear the fan ,fan net , and optical lens in order to keep good work state.
- Do not use the alcohol or any other organic solvent to wipe the shell.

1.2 Statement

The product has perfect performance and integrity packing. All users should be strictly complying 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.

Note: All information is subject to change without prior notice.

1.3 Safety Precaution

- In order to guarantee the product's life, please don't put it in the damp places or even the environment over 60degrees.
- Always mount this unit in safe and stable matter.
- Install or dismantle should operate by professional engineer.
- Using lamp, the change rate of power voltage should be within $\pm 10\%$, If the voltage is too high, it will shorten the light's life; If it's not enough, will influence the effect.
- Please restart it 20 minutes later after turning off light , until full-cooling. Frequent switching will reduce the life span of lamps and bulbs; intermittent using will improve the life of bulbs and lamps.
- In order to make sure the product is used well, please read the Manual carefully.

1.4 Product Instruction

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

Light source specification: 450W

Light source life: 20000 hours

Rated power: 600W

Channel mode: 23 channels

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

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

Dimming system: 0-100% linear adjustment

Focusing system: linear adjustment from 4 meters to 50 meters

Zoom system: 1 independent zoom effect, soft and natural light spot

Magnification angle: 4-50 degrees

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

Color: 8 colors + white light. Color half-color function

Color mixing system: linear CMY+CTO color mixing system.

Fixed patterns: 11 fixed patterns + white light

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

Prism system: standard single 6 facet prism and 8 facet prism, each prism can be independently forward and reverse

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

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

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

Product net weight: 23KG

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

1.5 Cable connection (DMX)

Use a cable conforming to specifications EIA RS-485: 2-pole twisted, shielded, 120Ohm characteristic impedance, 22-24AWG, 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 120Ohm (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.

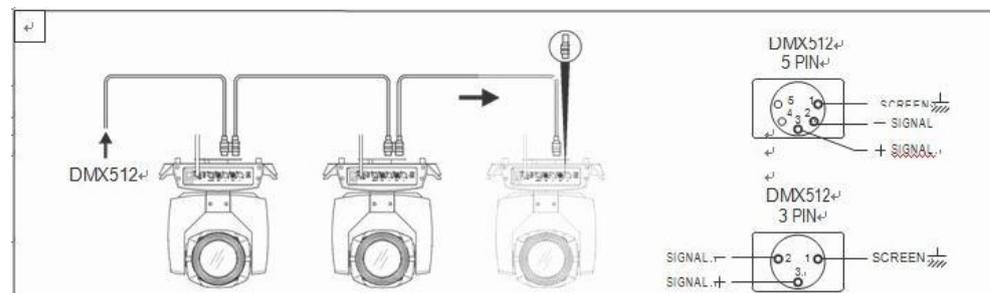


Figure 1 DMX Cable connection

1.6 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.

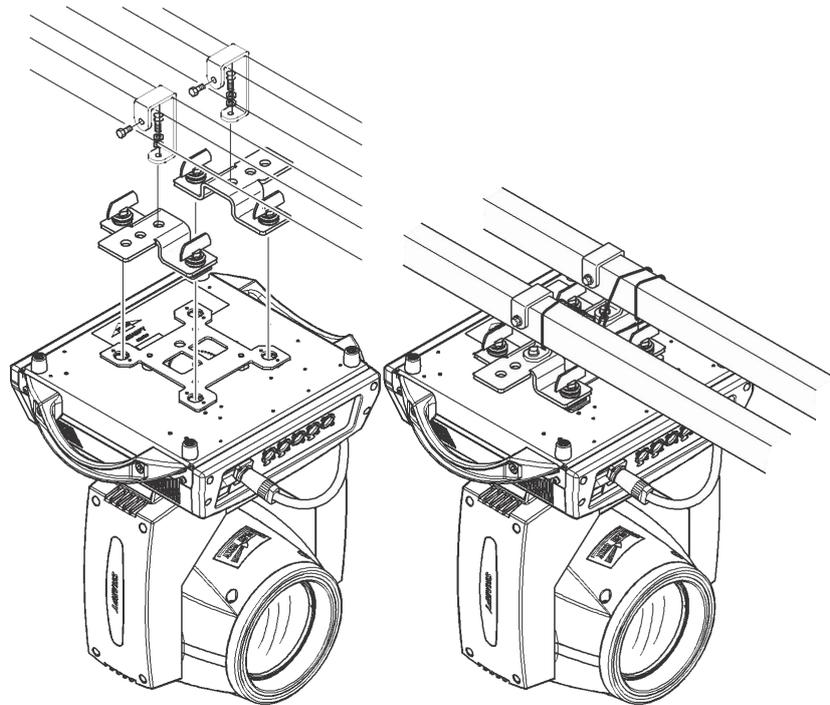


Figure 2 Installation

Chapter 2 Panel operation

2.1 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, click 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 been 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.

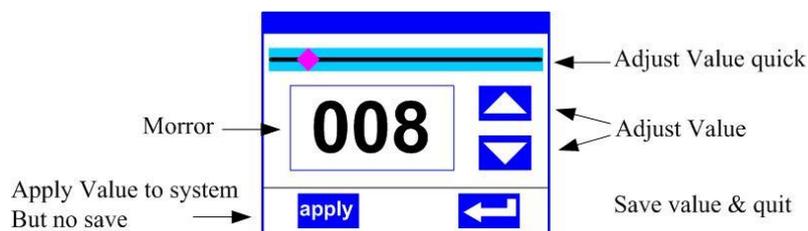


Figure 4 Dialog of value setting

- **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 pop up ask for the confirm. Chick ‘sure’ to confirm.

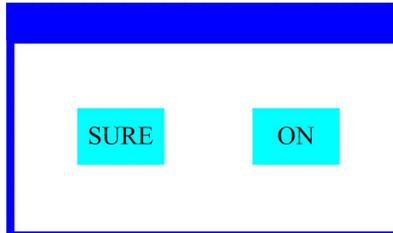


Figure 5 Dialog of confirm

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.
- WORKMOD: Set light work mode, master or slave mode when in auto run mode.
- DISPLAY: Set display parameter, eg. select language.
- TEST: Used for test light, 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.

<table border="1"> <tr><td>Address</td><td></td></tr> <tr><td>WorkMode</td><td></td></tr> <tr><td>Display</td><td>001</td></tr> <tr><td>Scene</td><td>23CHA. 01.01</td></tr> <tr><td>Advanced</td><td></td></tr> <tr><td>Status</td><td></td></tr> <tr><td>Escape</td><td></td></tr> <tr><td></td><td>Previous</td></tr> <tr><td></td><td>Next</td></tr> <tr><td></td><td>Channel</td></tr> <tr><td></td><td>SysRst</td></tr> </table>	Address		WorkMode		Display	001	Scene	23CHA. 01.01	Advanced		Status		Escape			Previous		Next		Channel		SysRst	<table border="1"> <tr><td>Address</td><td>DMX Ctrl</td></tr> <tr><td>WorkMode</td><td>Auto Run</td></tr> <tr><td>Display</td><td>Sound Ctrl</td></tr> <tr><td>Scene</td><td>Scene Mode</td></tr> <tr><td>Advanced</td><td>M/S Choose</td></tr> <tr><td>Status</td><td>Auto</td></tr> <tr><td>Escape</td><td></td></tr> </table>	Address	DMX Ctrl	WorkMode	Auto Run	Display	Sound Ctrl	Scene	Scene Mode	Advanced	M/S Choose	Status	Auto	Escape		<table border="1"> <tr><td>Address</td><td>语音</td><td>English</td></tr> <tr><td>WorkMode</td><td>Screen saver</td><td>Mode 3</td></tr> <tr><td>Display</td><td>Screen Rot</td><td>Auto</td></tr> <tr><td>Scene</td><td>DMX Indicate</td><td>Mode3</td></tr> <tr><td>Advanced</td><td>Screen Light</td><td>010</td></tr> <tr><td>Status</td><td>Touch Enable</td><td>ON</td></tr> <tr><td>Escape</td><td>Touch Rectify</td><td></td></tr> </table>	Address	语音	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				
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Escape																																																														

Figure 6 Parameter menu

2.3 Operation and parameter instruction

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

- In main menu, chick 1/6 function button into corresponding parameter menu.
- In sub menu(page), chick 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 diglog as in Fig. 4, modify value, then click 'ENTER' to confirm and save DMX address code.

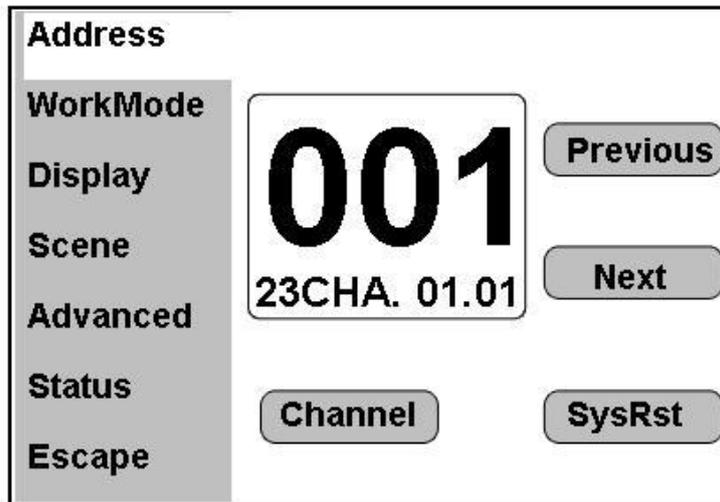


Figure 7 page of DMX Address

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.

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

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.

- ◆ **Channel Qty:** Light support 2 DMX Channel mode: sample or extend.

Simple --> 16CH.(Default)

Expand--> 20CH(or null).

2.3.3 DISP-->DISPLAY: Set display

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

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	

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 Rotation: To turning display.**

ON--> Normal display.(Default)

OFF--> 180° turning display.

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

ON--> Enable touch function.(Default)

OFF--> Disable touch function.

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

2.3.4 TEST--> TestMode

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.:

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

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:

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	

Figure 11 page of run parameter

- ◆ **Pan Invert:** Reverse PAN move
OFF--> Pan Normal move.(Default)
ON--> Reverse PAN move.
- ◆ **Tilt Invert:** Reverse TILT move
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:

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 12 page of status

- ◆ **Work Mode:** Show the current working mode.
- ◆ **Address:** Show the current address.
- ◆ **Version:** Show the version of the lamp.
- ◆ **Elapse:** Working hours after turn on.
- ◆ **Tatol:** Cumulative hours of operation

Chapter 3 Channel description

3.1 Channel table

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	Pulse strobe slow to fast
		104-107	Open
		108-155	Random strobe slow to fast
		156-207	Rand strobe slow to fast
		208-212	Open
		213-251	Rand strobe slow to fast
		252-255	Open
CH8	COLOR	0-127	Linear colour
		128-131	Colour1
		132-135	Colour2
		136-139	Colour3
		140-143	Colour4
		144-147	Colour5
		148-151	Colour6
		152-155	Colour7
		156-159	Colour8
		160-163	White+colour1
		164-167	Colour1+Colour2
		168-171	Colour2+Colour3
		172-175	Colour3+Colour4
		176-179	Colour4+Colour5
		180-183	Colour5+Colour6
		184-187	Colour6+Colour7
		188-191	Colour7+Colour8
		192-220	Rotate forward (fast to slow)
221-225	Stop		
226-255	Rotate reverse (slow to fast)		

		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	Gobo1
		5-9	White
		10-14	Gobo2
		15-19	Gobo3
		20-24	Gobo4
		25-29	Gobo5
		30-34	Gobo6
		35-39	Gobo7
		40-44	Gobo8
		45-49	Gobo9
		50-54	Gobo10
		55-59	Shake slow to fast Gobo1
		60-64	Shake slow to fast Gobo2
		65-69	Shake slow to fast Gobo3
		70-74	Shake slow to fast Gobo4
		75-79	Shake slow to fast Gobo5
		80-84	Shake slow to fast Gobo6
		85-89	Shake slow to fast Gobo7
		90-94	Shake slow to fast Gobo8
		95-99	Shake slow to fast Gobo9
		100-104	Shake slow to fast Gobo10
105-127	Gobo11		
128-190	Rotate reverse (fast to slow)		
191-192	Stop		
193-255	Rotate forward (slow to fast)		

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
		150-200	Rotate forward (fast to slow)
		201-205	Stop
		206-255	Rotate reverse (slow to fast)
CH17	GOBO ROTATING	0-127	0-360(degree)
		128-190	Rotate reverse (fast to slow)
		191-192	Stop
		193-255	Rotate forward (slow to fast)
CH18	PRISM 1	0-127	None
		128-255	Inert prism1
CH19	PRISM 1 ROT	0-127	0-360(degree)
		128-187	Rotate forward (fast to slow)
		188-195	Stop
		196-255	Rotate reverse (slow to fast)
CH120	PRISM 2	0-127	None
		128-255	Inert prism 2
CH21	PRISM 2 ROT	0-127	0-360(degree)
		128-187	Rotate forward (fast to slow)
		188-195	Stop
		196-255	Rotate reverse (slow to fast)
CH22	FROST	0-127	None
		128-255	Insert Frost
CH23	RESET	0-209	None

	210-215	Reset XY motor over 4 second
	216-219	None
	220-235	Reset Effect motor over 4 second
	236-239	None
	240-255	Reset all after 4 second

Common faults and 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 -distance transportation
- Check the input power, computer board and other pllougug-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.