USER'S MANUAL

BECEN

Model: BC-M300

300w Long Life Beam Moving Head Light

Package Includes:

1 x beam moving head light

1 x clamp

1 x handle

1 x safe cable

1 x power cable

1 x DMX cable

Please read this manual before use

Contents

Chapter 1　Safety Guidance and Parameters

● Attention

The equipment is well packaged when it leaves the factory. Please follow the user's manual, and the machine failure is not covered by the warranty due to human reasons

1. Safety guidance

Please keep this instruction manual as a basis for a future consultation, and if you sell this product to other users, please make sure that they also get it.

◆ The lamp is only suitable for indoor drying places.
◆ The installation and operation of the lamps should be carried out by professionals.
◆ Don't let the child operate the machine.
◆ Use a safe rope when fixing the equipment, and hold up the bottom when moving the lamps.
◆ Equipment must be installed in a well-ventilated place, at least 50 cm from the adjacent level.
◆ Ensure that the vents are unobstructed to avoid overheating during lamp operation.
◆ Ensure that the supply voltage complies with the equipment supply voltage before operation.
◆ Please ground the electric conductor to prevent the electric shock.
◆ Do not operate lamps above 40℃.
◆ Do not connect the lamps directly to the dimming device.
◆ The new lamp may have little smoke or odor, and will disappear after 15 minutes of operation.
◆ Do not place combustible items next to the lamps when running to prevent fire risk.
◆ Before opening the lamp, please carefully check whether the power cord is damaged. If there is any damage, please replace it immediately.
◆ The surface temperature of the lamp can reach 90℃, do not touch with bare hands.
◆ Avoid flammable liquid, water, or metal and other electrical conductors from entering the lamp interior to avoid electric shock or fire. If any foreign body enters the lamp, please cut off the power supply immediately.
◆ Avoid operating in a dirty and dusty environment,and clean and maintain the lamps regularly.
◆ Do not touch the wire to prevent electric shock.
◆ Avoid winding the power cord with other wires.
◆ The distance between the lamp and the irradiation surface shall be greater than 12M.
◆ Disconnect the power supply before replacing the fuse or light bulb.
◆ Use the same model when replacing the fuse or light bulb.
◆ Severe operation failure occurs, please stop the use immediately.
◆ Do not turn on the lamp repeatedly.
◆ Please replace the lamp shell, lens or UV filter.
◆ There are no available parts inside the lamp, do not open the lamp shell without authorization
◆ Do not operate the machine by yourself. Non-professional operation will cause damage to the equipment or functional failure. If maintenance is needed, please contact the nearest authorized service center.
◆ Cut off the power supply when the lamps are not used or repaired for a long time.
◆ To avoid fire or electric shock, do not expose the lamps to rain or wet areas.

◆ High temperature bulb explosion risk, do not open the lamp within 15 minutes of power failure.
◆ Please replace the bulb when damaged, heat-deformed or beyond its service life.
◆ Do not look directly at the lamps during their operation.
◆ The light bulb will be very hot when the lamp is running. Do not touch it with your bare hands.
◆ Do not operate the machine when the bulb is not without a protective cover or the housing is damaged.

300W BEAM Using Philips MSD Silver 300LL light source, through the light lens of 145mm diameter of high precision optical components, high bright light output, 0-100% smooth light modulation. Equipped with autofocus system, with independent atomization, and color macro effect. Based on the perfect combination of light source and optical technology, K300 BEAM is used as a high-performance lamp with a beam Angle as small as 2°, 13 colors plus white, rainbow effect.8 prism + 48 honeycomb prism, can be two-way rotation, can stack, rich dynamic effect; 10 patterns + 3 glass patterns + white circle, a variety of patterns display, for the lighting designer to provide a high degree of flexibility. Fan intelligent control, bulb does not work 0 noise K30000 BEAM set beam, pattern, rich color and atomization function in one, very suitable for stage, fashion show and other small and medium-sized activities, to create a colorful dynamic stage, is another professional choice of lighting division!
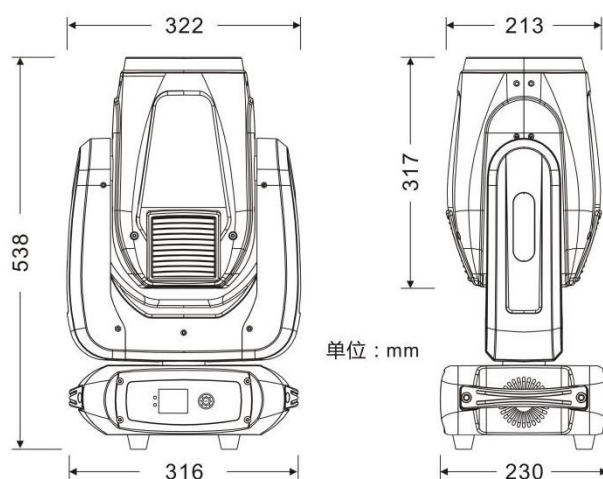
2. technical parameter

◆ Light source: PHILIPS MSD Silver 300LL
◆ Color temperature: 7,800 K
◆ Average life span: 4,000 H
◆ Rated voltage: AC 90V-250V 50Hz-60Hz
◆ Power: 450W
◆ Fuse: 6.3A
◆ Dimming: independent dual-chip device, 0-14 times / second ultra-fast strobe, 0-100% linear adjustment.
◆ Color: 13 color slices + white light, can realize half-color, full color, single and two-color gradient and positive and negative direction slow fast rainbow effect, with hall, magnet positioning and automatic error correction at any Angle.

◆ Static pattern: a metal pattern plate with 13 patterns + white circle, which can realize the conversion effect of water, jitter, random movement and slow positive and negative direction. Imported special high temperature resistant metal materials, with the function of Hall, magnet positioning and automatic error correction at any Angle.

◆ Prism: 8 + 16 + 24 honeycomb prism, 8 prism, prism can be superimposed, can be rotated in both directions, prism without black dot, prism superposition is still clear.

◆ Seven-color tablet: 1 seven-color slice (can make colorful effect)

◆ Fogging: 1 atomization effect, soft and natural light spot

◆ X-axis running angle: 540° 16bit precision scan

◆ Y-axis running Angle: 270° 16bit precision scan

◆ Automatic correction of loss of step in X axis / Y axis

◆ Control channel: 16 CH channel

◆ Control signal: international standard DMX512 / RDM function

◆ Fan: Intelligent control, all fans do not working when the bulb is not working.

◆ Appearance: high-temperature-resistant plastic

◆ Protection level: IP20

◆ Product size: 31.6x23x53.8cm

◆ Net weight: 14kg

3. working environment

◆ Maximum ambient temperature: 40 ℃

◆ Minimum operating temperature: 0 ℃

◆ Maximum surface temperature: 70 ℃

◆ Protection level: IP20

4. Factory configuration

Electronic instruction manual

power line

Factory qualification certificate and warranty card

Eight advantages:

◆ Power-on operation and reset channel mute

◆ The XY is running at a high rotational speed

◆ Precise positioning does not deviate

◆ RDM remote tune address code,

◆ Intelligent detection and obstacle estimation

◆ Manual obstruction of shaking the head can be released intelligently

◆ Prism without black dots, prism stack is still clear prism autofocus

◆ High light transmittance combination mirror, strong light sense, full light beam

5. Precautions for products

◆ In order to ensure the service life of the product, the product should not be placed in a wet or leaky place, nor to work in the temperature above 60 degrees

◆ Do not place the product in a place that is easy to loosen or vibrate.

◆ In order to avoid the danger of electric shock, this product.

◆ When the bulb is used, the voltage change of the power supply should not exceed ± 10%. If the voltage is too high, it will shorten the life of the bulb. If the voltage is too low, it will affect the light color of the bulb.

◆ After power failure, it takes 20 minutes to use the lamp to cool adequately before energizing again.

◆ To ensure the normal use of this product, please read the instructions carefully. Signal line connection (DMX)

Use specification compliant RS-485 cable: with shielding, 120 ohm characteristic impedance, 22-24 AWG, low tolerance. Do not use microphone cables or cables with different specified characteristics. The terminals must have a 3-or 5-pin XLR male / female connector.(Minimum of 1 / 4 W).
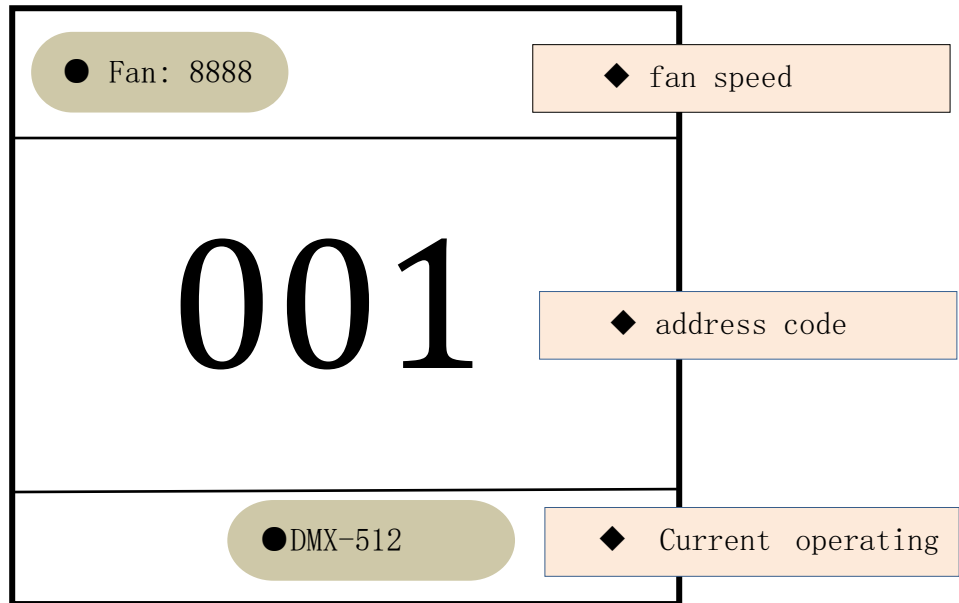
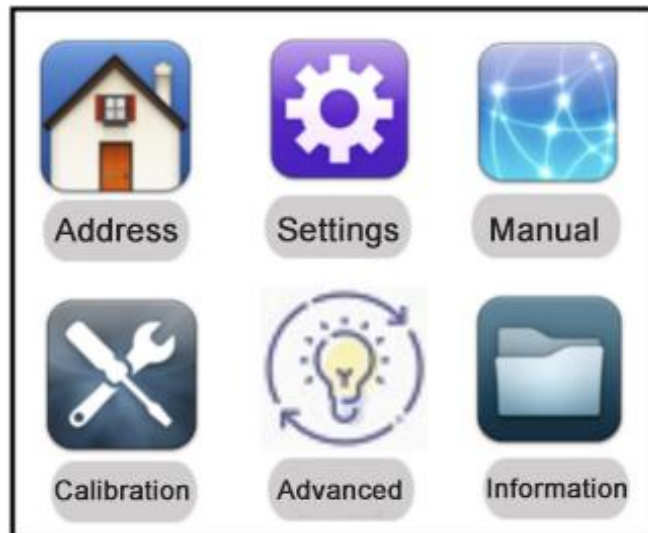Important: The ines shall not contact each other or with the metal shell.
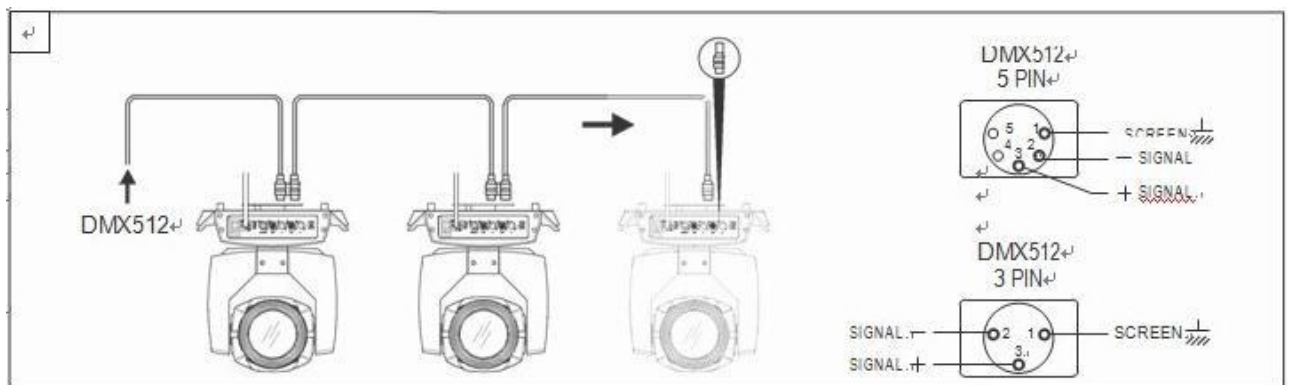
1Figure 1 Schematic diagram of the DMX signal line connection

Chapter 2   Panel operation

1. Menu desktop


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┌─────────────────────────────────┐
│   ● Fan: 8888          ◆ fan speed    │
│                                   │
│                                   │
│        001        ◆ address code  │
│                                   │
│                                   │
│       ●DMX-512     ◆ Current operating │
└─────────────────────────────────┘
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2. Menu first interface

◆   Address: Click to enter the address code setting
◆   Settings: Click to enter the system Settings
◆   Manual: Click to enter the manual mode
◆   Calibration: Click to enter the password to enter the system calibration mode
◆   Advanced: Click to enter the spot light and system reset mode
◆   Information: Click on to enter to view the system information

3. Menu structure

primary menu	Sublevel menu	Three-level menu / parameters
address	001 - 512	(Number of channels added each time, minus normal)
System Settings	running mode	DMX / voice / self
	channel pattern	16CH
	Default position of X axis	0-255
	Default position of Y axis	0-255
	X axis reversal	Open / close
	Y axis reversal	Open / close
	XY axis exchange	Open / close
	The signal to keep	Open / close
	Linear change in color	Open / close
	Optical coupling error correction	Open / close
	Hall error correction	Open / close
	Screen protection	Open / close
	Backlit time	Chang Liang / 15s / 30s / 60s
	Screen reversal	Normal / reverse / automatic
	language	centre /EN
	Synchronous update	Execute updates
	factory data reset	Confirm / cancel
manual mode	Current channel mode channel	0-255
system calibration	enter password	Lighting calibration
lamp bulb	Turn on the light	Open / close
	Manual lighting	Open / close
	half-power	Open / close
	Clear the record	Confirm / cancel
	Light time	
	The number of lights	
system reset	Head motor reset	
	XY motor reset	
	Full motor reset	

system info	Reset the error message	Display the reset error message
	And DMX data monitoring	Channel values for the receiving console
	sensor information	Hall information
		X-light coupling information
		Y light coupling information
	Hardware version	Displays the hardware version
	software release	Displays the software version
	utility time	Time of the beam lamp

3.1 Screen automatic rotation function

The system can automatically rotate the screen according to the direction of gravity, without manual rotation. You can also turn off the automatic rotation function.

3.2 Manual control

This interface is used to control the current lamps.

Press OK to enter the edit state.

Press Up and Down to change the channel value.

Press OK again to save the modified value, exit editing, and press Exit not to save the modified value, and directly exit editing.

3.3 System calibration

Here to set a layer of password to prevent non-professionals from misoperation. The default password is "2021", the default is directly press the "OK" key to enter.

option	explain
Initial position calibration	After entering the sub-interface, the starting position of X-axis, Y-axis, strobe, strobe, color disk, pattern, prism, fog mirror, colorful, focusing motor can be adjusted to make up for the error on the hardware installation. The adjustment range of 0~255,127 means that there is no adjustment.
Travel calibration	After entering the sub-interface, the stroke of X axis, Y axis, strobobe, prism, fog mirror, colorful, focusing motor can be adjusted, and the adjustment range of 0~255,127 means that there is no adjustment.
Speed calibration	After entering the sub-interface, the speed of X-axis, Y-axis and 1-4 motor can be adjusted, and the adjustment range of 0~255,127 means no adjustment.
Strength calibration	After entering the sub-interface, the strength of X-axis, Y-axis and 1-4 motor can be adjusted, and the adjustment range of 0~255,127 means that there is no adjustment.
Fan control	After entering the sub-interface, the intelligent switch of the fan, half power / color / white light speed, and the shutdown time of the light head / base can be controlled
Other calibration	Voice-control sensitivity calibration, usage time, and password modification.

4. Reset

Press Up and Down to switch the reset mode, and press OK to reset directly.

option	explain
Head motor reset	Effect motor reset except for XY
XY motor reset	XY axis reduction
Full motor reset	Lamps reset

4.1 system info

option	explain
Reset information	If the red ERR indicator shines, the lamp is running wrong, and details can be viewed in the subinterface
AndDMX data monitoring	This enters the subinterface to display channel values for viewing
sensor information	Real-time monitoring of the light coupling, hall and other sensors on the lamp state
Hardware version number	Lighting hardware information
Software version number	Lamp software version

4.2 View the current status of the lamp

Enter the page shown, you can view the information and real-time status of the lamp to know the use status of the lamp. If the lamp needs after sale, please provide the status information displayed on the page as the basis for judgment, as shown in the following table: status information

Motor information	Display the information status of all motors and signals in the lamp	
	Hoare	Not shown, it means that the motor is not Hall corrected, 0 means that the motor leaves the correction position point, and 1 means that the motor is at the correction position point
	state	Show the motor reset completion state
	X axle	Displays the real-time position value of the X-axis optical coupling feedback
	Y axle	Display the real-time position value of the Y-axis optical coupling feedback
	optocoupler	Show the level state of two signals with X and Y axis, binary
Fault / status record	Display the last 8 fault records of lamp reset and operation, the fault records are not saved after power failure, when the next power cycle is valid	
	fault data	Total number of faults detected after power-on
	12： :03	Power time in minutes
	Hall fault	The corresponding motor does not detect an effective Hall signal when the motor is reset
	Hall short circuit	The Hall signal of the motor detected at the corresponding motor reset is always valid
	Optical coupling failure	No effective photocoupling signal is detected when the corresponding motor is reset
	fall out step	The corresponding motor loses its step during operation
	Crash rod	Cragainst the positioning lever when the motor is reset
	Bulb failure	Light bulb accidentally extinguished
	Sensor failure	Temperature sensor signal is abnormal,
	Fan fault	The main fan is not working properly
Lighting status	Displays the critical status data for the current lamp for reference	
	communication	0~100%, the communication quality of the data link within the lamp
	miscount	The number of error frames detected after power, accumulated
	Light source temperature	Show the temperature of the current light source, "- - -" indicates no detection

	Display plate temperature	Displays the temperature of the current display board or the nearby ambient temperature
	Sensor 1 temperature	Displays the current motherboard temperature or the ambient temperature at the motherboard installation location
Version information	Display the information and version of current lamps and make an important reference for after-sales maintenance	
	equipment	Name of lamp, same to equipment information of RDM
	model	Model of lamp, same as model information of RDM
	display board	Firmware version and serial number of the display board
	Main board 1	Firmware version and serial number of the motherboard 1
Light source time	Record the total accumulative time of the light source, as a reference for regular maintenance of the light source	
Lamps time	Record the total cumulative time of lamp opening, unit minutes, do not clear	

Chapter 3   Channel description

The lamp channel can be viewed in scene mode. The channel mode is set in the Address Settings page. The detailed data are shown in the following table below:

1. channel table

channel 16DMX	name	numeric value	description
CH1	pigment	0-6	white light
		7-11	Color 1
		12-16	Color 2
		17-21	Color 3
		22-26	Color 4
		27-31	Color 5
		32-36	Color 6
		37-41	Color 7
		42-46	Color 8
		47-51	Color 9
		52-56	Color 10
		57-61	Color 11
		62-66	Color 12
		67-71	Color 13
		72-75	White light + color 1
		76-79	Color # 1 + color # 2
		80-83	Color # 2 + color # 3
		84-87	Color # 3 + color # 4
		88-91	Color # 4 + color # 5
		92-95	Color # 5 + color # # 6
		96-99	Color # 6 + color # 7
		100-103	Color # 7 + color # # 8
		104-107	Color # 8 + color # # 9
		108-111	Colour 9 + color 10
		112-115	Colour 10 + color 11
		116-119	Colour 11 + color 12
		120-123	Colour 12 + color 13
		124-127	Color of 13 + white light
		128-189	From fast to slow counterclockwise flow water
		190-193	Stop running water
		194-255	From slow to fast, the clockwise flow of water
CH2	stroboflash	0-3	The light switch is closed

		4-103	Synchronous flash
		104-107	The light switch is opened
		108-207	Equal frequency flash
		208-212	The light switch is opened
		213-251	Random flash
		252-255	The light switch is opened
CH3	**aiming**	0-255	With 0-100% dimming
CH4	**pattern**	0-4	White aperture
		5-9	Pattern 1
		10-14	Pattern 2
		15-19	Pattern 3
		20-24	Pattern 4
		25-29	Pattern 5
		30-34	Pattern 6
		35-39	Pattern 7
		40-44	Pattern 8
		45-49	Pattern 9
		50-54	Pattern 10
		55-59	Pattern 11
		60-64	Pattern 12
		65-69	Pattern 13
		70-127	From fast to slow counterclockwise flow water
		128-132	Stop running water
		133-190	From slow to fast counterclockwise flow water
		191-195	Pattern 1 shakes from slow to fast
		196-200	Pattern 2 shakes from slow to fast
		201-205	Pattern 3 shakes from slow to fast
		206-210	Pattern 4 shakes from slow to fast
		211-215	Pattern 5 shakes from slow to fast
		216-220	Pattern 6 shakes from slow to fast
		221-225	Pattern 7 shakes from slow to fast
		226-230	Pattern 8 shakes from slow to fast

		231-235	Pattern 9 shakes from slow to fast
		236-240	Pattern 10 shakes from slow to fast
		241-245	Pattern 11 shakes from slow to fast
		246-250	Pattern 12 shakes from slow to fast
		251-255	Pattern 13 with a jitter ranging from slow to fast
CH5	**Prism 1**	0-127	Remove the prism
		128-255	Prism cut in
CH6	**Prism 2**	0-127	Remove the prism
		128-255	Prism cut in
CH7	**Prism rotation**	0-127	0-400 degrees
		128-189	From fast to slow forward flowing water
		190-193	cease
		194-255	From slow to fast, the reverse flow of water
CH8	**colorful**	0-127	not have
		128-255	Insert colorful
CH9	**atomization**	0-127	not have
		128-255	Insert atomization
CH10	**focus**	0-255	From far to near
CH11	**X axle**	0-255	0-540 degrees
CH12	**X axis fine-tuning**	0-255	The X-axis 16bit fine-tuning channel
CH13	**Y axle**	0-255	0-240 degrees
CH14	**Y axis fine-tuning**	0-255	Y axis 16bit tuning channel
CH15	**XY velocity**	0-255	From fast to slow
CH16	**reset**	0-99	NF
		100-110	Off-bulb (5S)
		111-199	NF
		200-210	Open the light bulb (5S)
		211-219	NF
		220-229	XY motor reset (5S)
		230-239	Effect motor reset (5S)
		240-255	All motor reset (5S)

Chapter 4   Common faults and use attention

1. Common fault handling

Lamps contain microcomputer circuit board, high voltage power supply and other professional components, for your safety and product life, non-professionals do not remove lamps and related accessories without authorization.

Bulb is not light on (except for LED light source)

Possible reasons: The bulb is not fully cooled, or the bulb reaches its life, treated as follows:

◆ Due to abnormal operation, the bulb is not completely cooled, the light body should be cooled for more than 10 minutes, so that its internal completely restored to the normal state, and then start the power supply again;

◆ Check whether the bulb has reached the service life, and replace it with a new bulb;

◆ Check whether the bulb and the lamp lighting device circuit leakage, fall off or poor contact;

◆ Replace the new lamp lighter. Possible reasons: the bulb is used for a long time or the light path is not clean, treated as follows:

◆ Check whether the bulb has reached the service life, and replace it with a new bulb;

◆ Check whether the optical components or bulbs are clean, and whether there is dust accumulation on the bulbs and other optical components, and the bulbs and the components should be cleaned and maintained regularly.

◆ The pattern projection is vague

◆ Check if the electronic focus channel values are appropriate for the current projection distance.

◆ The light fixtures work intermittently

◆ Reason: Internal line enters the protection state and handles as follows:

◆ Check whether the fan is running normally or whether it is dirty, causing the temperature inside the lamp to rise;

◆ Check whether the internal temperature control switch is in a closed state;

◆ Check the bulb and replace the new bulb.

◆ The control of the console is not accepted after normal reset

◆ Possible cause: signal line fault or lamp parameter set abnormal, handle as follows:

◆ Check the starting address code and the connection of DMX signal line (whether the signal cable is intact and whether the Alcock head connection is loose);

◆ Add a signal amplifier, add 120 ohm terminal resistance;

◆ The lamps cannot be started

◆ Cause: poor power line, treated as follows:

◆ Check whether the insurance on the power input socket is fused and replace the insurance;

◆ Light travel due to vibration in long distance transportation

◆ Check the input power supply, computer board and other connecting devices.

2. Precautions for use

◆ Check whether the local power supply meets the rated voltage requirements of the product, and the leakage protector and overcurrent protector meet the load requirements;

◆ Do not use damaged power cord with insulation and do not attach power cord to other wires;

◆ The lamps and lanterns use strong air refrigeration, which is easy to accumulate dust. They must be cleaned once a month, especially the cooling outlet, otherwise it will be blocked due to dust, resulting in poor heat dissipation, so that the lamps appear abnormal.

◆ When installing the lamps, the fixed screws must be tightened, and equipped with safety cables, and regular inspection;

◆ In the installation and positioning of the lamp, any point on the surface of the lamp and any burning explosive, keep the minimum distance of 10 meters, the distance from the irradiation is 2.5 meters, please do not install the lamp directly on the surface of combustible material;

◆ It is recommended that the continuous working time of lamps should not exceed 10 hours, and the interval time of continuous starting lamps should not be less than 10 minutes, otherwise it will not be triggered normally because of the overheating protection of the bulb;

◆ The closing time of using the on-off valve should not exceed 5 minutes. If the light needs to be closed for a long time, the console (light gun control channel) should be used to turn off the light gun;

◆ In order to ensure that multiple lamps better comply with the scene effect, the lamps should not always be in the unfinished current scene, that is, start the next scene action, it is best that this state is not more than 3 minutes, to ensure that multiple lamps can run synchronously;

◆ In the process of use, if the lamps are abnormal, the lamps should be stopped in time to prevent other faults.

3. RDM use considerations

RDM is an extended version of DMX512-A protocol, which is the remote device management (Remote Device Management) protocol. Traditional DMX512 protocol communication is one-way communication, the protocol is based on RS-485 bus, RS-485 is time-sharing multi-point and semi-duplex protocol, and only one port is allowed for host output at the same time. Therefore, the following points should be noted when using RDM.

◆ To use the console or host device that supports the RDM protocol host;

◆ To use the two-way signal amplifier, the traditional one-way signal amplifier is not applicable to the RDM protocol, because the RMD protocol needs feedback data, the use of the one-way amplifier will block the returned data, resulting in the search for lamps;

◆ All lamps must be set to DMX mode to ensure that there is only one host on the signal line;

◆ A 120 ohm impedance matching resistance must be inserted between terminals 2 and 3 of the terminal plug. When the signal line is relatively long, the signal reflection, which is conducive to the quality of communication;

◆ When the lamp is subject to DMX control, but can not RDM search the lamp, first check the signal amplifier, and then check whether the 2 and 3 lines of the signal line have poor contact.

4. Lighting installation

◆ Lamps can be placed horizontally, oblique and upside down. We must pay attention to the installation method when hanging in oblique and inverted hanging.

◆ 2 As shown in Figure 2, before the positioning of the lamp, to ensure the stability of the installation site, in the reverse hanging installation, must ensure that the lamp does not fall off the support frame, need to use a safety rope through the support frame and the lamp handle for auxiliary hanging, to ensure safety. Prevent the lamps from falling and sliding.

◆ When the lamps are installed and tested, pedestrians are not allowed to pass below. Regularly check whether the safety rope is worn and whether the hook screws are loose.

◆ Our company shall not bear any responsibility for all the consequences caused by the unstable installation of the hanging and the lamp falling.
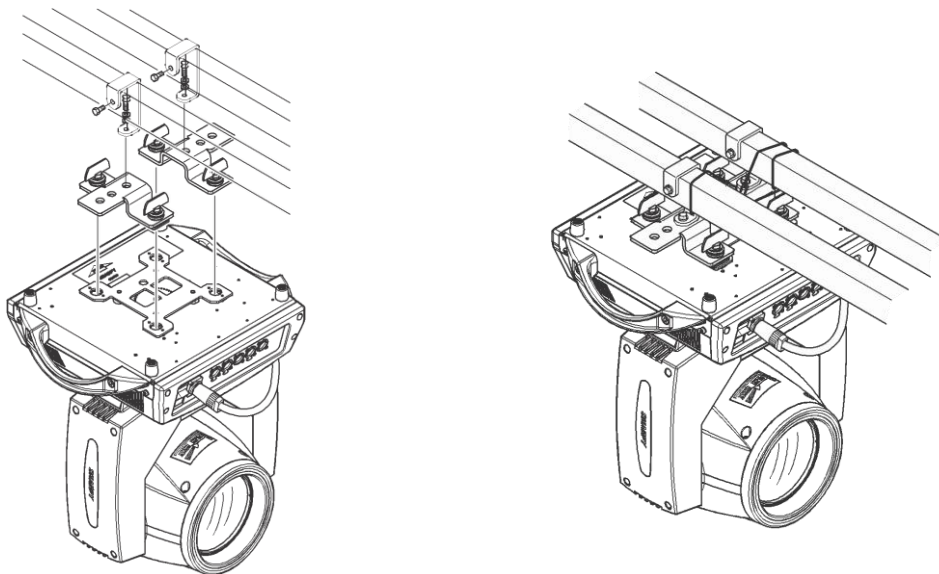
2Figure 2 Schematic diagram of the inverted lamp

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