

1960 Waterproof Bee-eye

user's guide



(Read the instructions carefully and take good care of the product before using)

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Chapter 1 Precautions and installation

1. Remove the packing

For the correct and safe use of this product, please read the instructions carefully before installing and using this product. This instruction contains important installation and application information, please strictly follow the instructions when installing and operating the product. At the same time, please keep this instruction properly.

This product is designed and manufactured strictly in accordance with the CE standards, and it complies with the international standard DMX512 signal protocol. It can be used independently for control or in conjunction with others. It features rapid rotation, low noise, and powerful functions. It is suitable for use in small and medium-sized concerts, theaters, studios, nightclubs, and bars, etc.

Please be careful to remove the package. After removing the package, check whether the product is damaged during transportation and check whether the following contents are complete.

1960Waterproof Bee-eye----1
Instruction manual----1
Hanger----1 set

signal line----1
power cord----1

The product is not equipped with relevant maintenance parts. The maintenance and repair of the product can only be carried out by professionals!

Please do not change this product without authorization, otherwise the product may be damaged, so the damage caused is not covered by the warranty. In addition, unprofessional operation may lead to short circuit, burns or electric shock, etc.

2. Safety instructions

Attention! Please be careful before operating this product. This product is a high voltage product. If you touch the wire, you may be electrocuted!

This product is in good condition before leaving the factory. In order to maintain the good condition of this product and ensure safe operation, users should follow the safety matters and warnings in this manual.

 Important: Damage caused by non-compliance with this manual is not covered by the warranty. The supplier is not responsible for product problems arising therefrom.

If the product has been exposed to extremely unstable temperature environment (such as after transportation), please do not immediately connect the power supply of the product, because the water droplets caused by temperature changes may damage the product. Please use the product after it has returned to normal temperature.

This product can be used in the voltage range of 100-240V. Please ensure that the ground voltage is not higher than the range that the product can withstand!! The power plug must be plugged into a class I socket with good protection. The green or tea green conductor must be grounded.

Please check the power cord of this product regularly. Ensure that the power cord is not folded or damaged, and do not connect it to other wires! Pay special attention when connecting the power cord or related wires. Unplug the power cord before using this product or cleaning.

Before using the product, please familiarize yourself with the operation function of the product. Please do not let children or unprofessional personnel touch the product.

Please do not shake this product. Do not use brute force when installing or operating the product. Do not allow unprofessional personnel to operate the product. Most damage is caused by unprofessional operation.

The product is not equipped with relevant maintenance parts. The maintenance and repair of the product can only be carried out by professionals!

Please do not change this product without authorization, otherwise the product may be damaged, so the damage caused is not covered by the warranty. In addition, unprofessional operation may lead to short circuit, burns or electric shock, etc.

3. Product precautions

- If the product has been subjected to a large temperature difference (for example, after transportation), do not start the product immediately, because hot shrinkage will damage the product. Please wait until the equipment reaches normal room temperature before starting the product.
- Pay attention to shockproof. Avoid strong collision during installation.
- Please do not lift the whole product through the lamp head, because the mechanical damage of the equipment may be caused.
- When selecting the installation site, please ensure that the product is not exposed to overheating, too wet or dusty places. Do not place any wires on the ground, otherwise you may be at risk of electric shock.

- Before installing the product, ensure that the installation point is safe.
- Please tie the safety rope to the product and check all screws are correct during installation.
- Please ensure that the lens is in good condition. When the lens is damaged or scratched, please replace the lens.
- It is recommended that the product be operated by a technician familiar with the product. Non-technical personnel are prohibited from operating this equipment, because many losses are the result of non-professional operation.
- Please keep the packing materials properly in case of secondary transportation.
- Do not change the product without the guidance of the manufacturer or distributor.
- Any equipment failure caused by not operating the equipment according to the instructions is not covered by the warranty. In addition, any accident caused by short circuit, injury, electric shock, ultraviolet light, bulb explosion and so on are not covered by the warranty.

4. Installation of lamps

Note: For safety, please hang the product away from aisles, seating areas, or areas accessible to people.

This lamp can be placed horizontally, hung at an angle, or inverted. When hanging at an angle or in an inverted position, it is crucial to follow the correct installation method. For fixed installation: Before positioning the lamp, ensure the installation site is stable. When installing the lamp at an angle or in an inverted position, prevent the lamp from falling off the support frame by using a safety rope to secure it to the support frame and the lamp handle, ensuring a safe installation. To prevent the lamp from falling or sliding, avoid pedestrian passage below during installation and debugging. Regularly check for wear on the safety rope and looseness of the hook screws. The manufacturer will not be liable for any consequences resulting from the lamp falling due to unstable hanging. Before hanging this product, please ensure that the installation point can withstand 10 times the weight of this product.

The product must be installed with double protection devices, such as safety ropes. When hanging, removing or repairing this product, do not stand under the installation point.

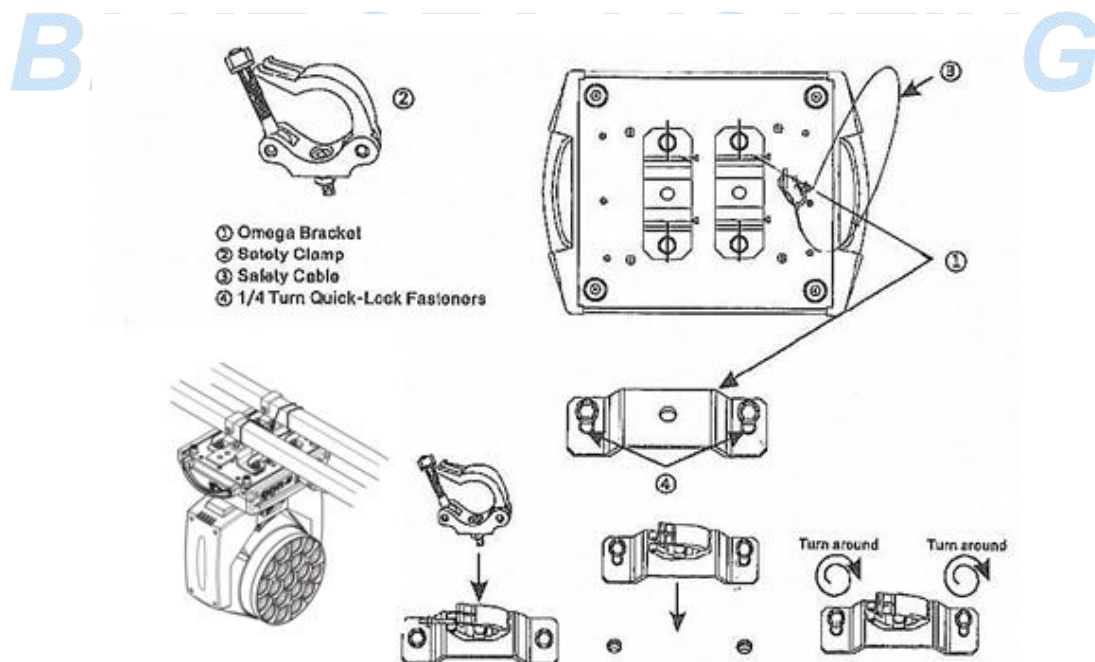
Please ensure that the product should be installed at least 0.5 meters away from flammable materials.

Hanging point: The top hanging requires the installation personnel to be experienced, including calculating the load requirements, using the installation materials, periodic inspection of the safety status of the installation materials and products. If you lack this knowledge, please do not try to install by yourself. If you do not operate correctly, it may lead to serious consequences such as personal injury.

Before the product is powered on, please be sure to complete all required hanging and installation steps.

Quick lock hanging: This product has a specially designed professional hanging part at the bottom, including quick lock hanging part and safety rope hanging point (please refer to the figure below).

When hanging this product on the truss, remember to use a suitable quick-release lock to secure it at the designated position on the product and hang it using M10 screws. For added safety, attach the safety rope to the designated point at the bottom of the product and secure it to the truss. (Note: The diagram below is for reference only and does not represent the actual appearance of this lamp.)



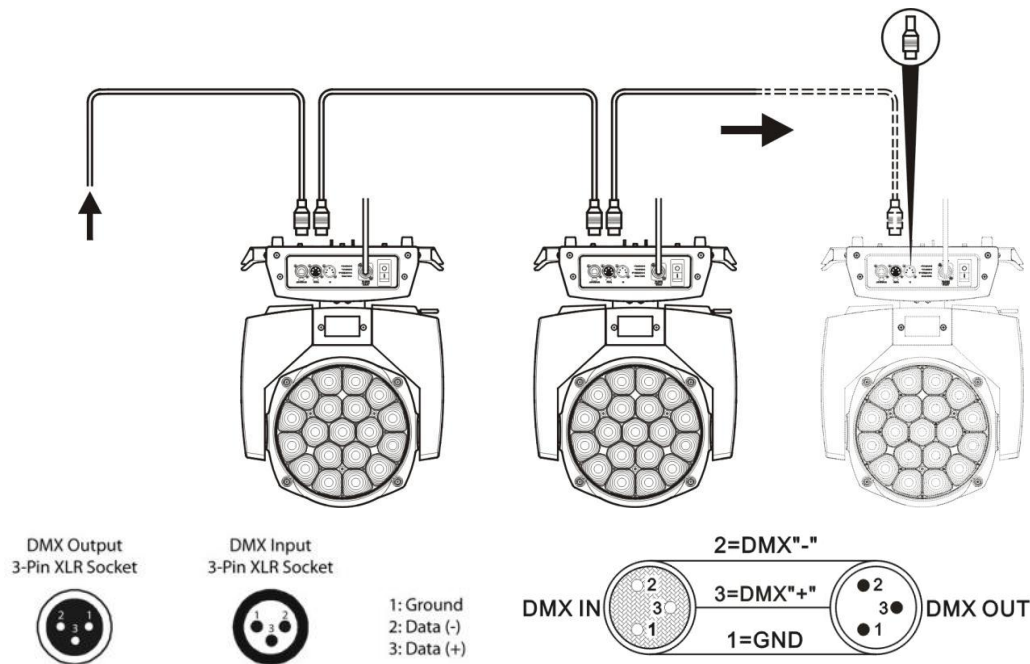


Figure 1 Schematic diagram of lamp installation

No matter which type of suspension you choose, please remember to use a safety rope. The bottom of the product is equipped with a special safety rope hanging point, please refer to the picture above, and please remember to use the special safety rope hanging point, do not install the safety rope on the handle position.

DMX-512 linkage

This lighting fixture operates using the DMX512 signal control mode, where each light's control signals are connected in parallel. When connecting multiple lights, it is advisable to use a double-core shielded cable. During connection, each light should be connected through the DMX signal socket (Cannon connector) INPUT and OUTPUT ports. The 3-pin XLR connector terminals of the signal lines must match. It is recommended to use a DMX signal terminator when connecting the lights. This device prevents control signal damage caused by electrical noise. The DMX signal terminator consists of a 120-ohm 1W resistor connected between the 2nd and 3rd pins of the XLR connector, which is then connected to the OUTPUT port of the last light.

Lighting start address code calculation method:

The starting address code of the current lamp is equal to (the starting address code of the previous lamp) + (the number of channels of the lamp). Note:

- 1: The starting address code value A001 of the first lamp.
- 2: The basic channel number of the controller should be greater than or equal to the total number of lamp channels used.

3: Note: When using any controller, each lamp must have its own starting address code. For example, if the first lamp is set to A001 with a channel count of 16CH, the second lamp should be set to A017, and the third lamp to A033, and so on (this setup method may vary depending on the specific control panel).

Please connect the male XLR connector of this product to the controller's signal output port, and the female XLR connector to the signal input port on the back panel of this product. You can connect multiple units in series, provided that the signal cable is a three-core, shielded type with XLR input and output connectors. Please refer to the following diagram.

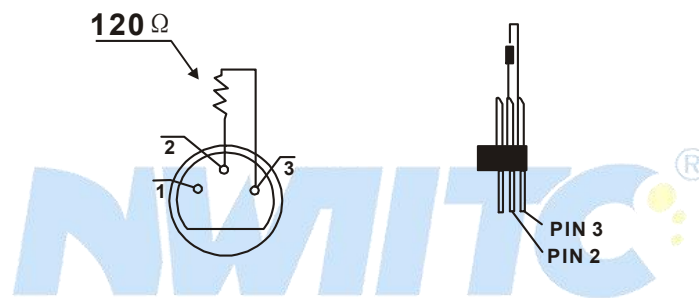


Figure 2 DMX512 connection diagram

BLUE SEA LIGHTING

Chapter 2 Panel operation

1. Lighting panel

The schematic diagram of the lamp panel is shown in Figure 3:

1) Temperature: As shown in the figure, the lamp board temperature is 20 degrees Celsius. If the temperature display shows---℃, it indicates an abnormal temperature detection in the lamp. This could be due to a break in the temperature control connection line. If the temperature display shows ***℃ and there is a significant difference from the ambient temperature, it may indicate a short circuit in the temperature control connection line. A professional must inspect and repair the issue before the lamp can be used normally.

2) Address code: The display range is 001-512, and the address code displayed on the map is 001.

3) DMX mode: 512 mode.

4) Button: UP: Up button

MENU: Return key

ENTER: Confirm key

DOWN: Press the down key

Note: Do not use a sharp or pointed object to click the display screen to avoid damage.

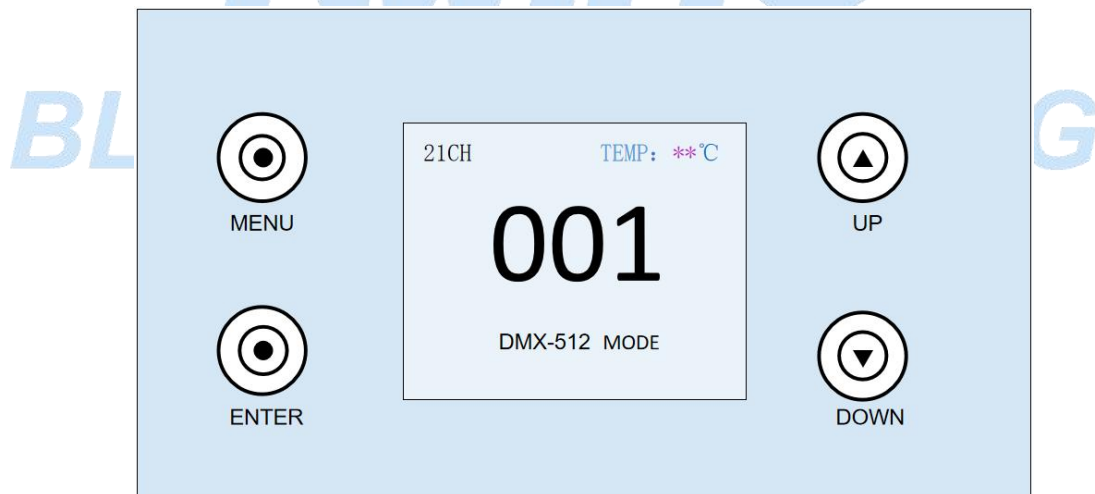


Figure 3 Schematic diagram of four key display panel

2. Menu home screen

The first interface of the menu contains 6 submenus. Select the corresponding submenus through the "UP" key and "DOWN" key, and click the "ENTER" key to enter the corresponding submenu interface. The first interface of the menu is shown in Figure 4:

1) Address: Click to enter the address code setting. You can increase or decrease one bit of the address code by pressing the "UP" key and "DOWN" key, and the address code displayed on the lamp panel will be updated synchronously.

2) Settings: Click to enter the system options, you can change the working mode of the lamp, working parameters and panel display Settings.

- 3) Manual: Click to enter the manual mode, where you can control the functions of the lamps. For detailed information, please refer to the channel table.
- 4) Calibration: Click to enter the system calibration mode by entering the password.
- 5) Reset: Click to enter the reset mode to control the bulb.
- 6) Information: Click to enter to view information such as system error correction, software and hardware versions, etc.

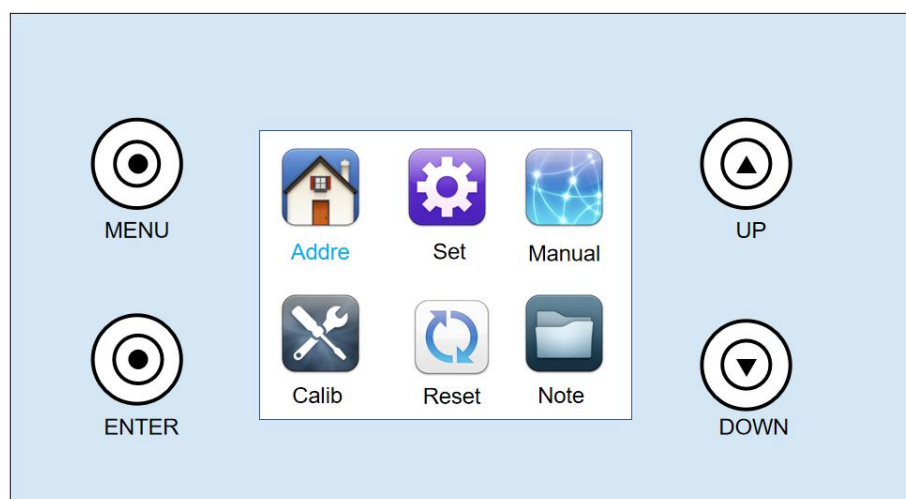


Figure 4 Determine the input window

2.1 System Settings

System Setup		System Setup		System Setup	
Run Mode	DMX	Signal Keep	OFF	Dimmer Speed	Fast
Channel	21CH	Screen Saver	ON	Load Default	
Invert Pan	OFF	Invert Screen	Auto		
Invert Tilt	OFF	Update Slave	OFF		
Hall Crct	ON	Language	EN		
Encoder Crct	ON	Screen Lock	OFF		

Figure 5 System Settings window

The system setting interface is shown in Figure 5. Enter the system setting, click the "ENTER" key to select the setting to be modified, and then select the changed content through the "UP" and "DOWN" keys. Finally, press the "ENTER" key to confirm, and you can change the working mode, working parameters and panel display Settings of the lamp. See Table 1 for details.

option	explain	
work pattern	Lamp operating modes: DMX, voice-controlled, Auto 1, Auto 2	
	DMX pattern	Control console mode, receiving DMX signals
	Self-propelled Mode 1	The lamp operates automatically according to the built-in self-running program 1.
	Self-propelled Mode 2	The lamp operates automatically according to the built-in self-running program 2.
	Voice Control Mode	When the lamp detects a loud sound, it automatically activates a scene according to its built-in program;

		otherwise, it maintains the previous scene.
channel pattern	21CH	
Horizontal Flip	Set X-axis direction	
	close	Not reverse
	open	opposite direction
Vertical Flip	Set the Y-axis rotation direction	
	close	Not reverse
	open	opposite direction
Optical Coupler Error Correction	Check if XY is out of sync and correct it	
	close	Do not correct position after losing step
	open	Automatically correct position after losing step
Hall Error Correction	Check if XY is out of sync and correct it	
	close	Do not correct position after losing step
	open	Automatically correct position after losing step
Signal Maintenance	The output status of the luminaire in the absence of a DMX signal	
	close	No signal is detected; therefore, the motor and light source return to their original position and state upon completion of reset.
	open	No signal; maintain the last frame of DMX data output.
Screen Protection	Screen on time	
	close	Always On
	open	In a static environment, the screen turns off automatically at a scheduled time.
Flip the screen	Set the screen display orientation	
	close	Do not invert display
	open	Reverse Display
	voluntarily	The system automatically rotates the screen based on the direction of gravity.
Sync Update	Sync the setup or calibration parameters for multiple lighting fixtures	
	close	The synchronous update feature is disabled.
	open	After enabling this feature, connect multiple luminaires using DMX cables to synchronize information updates across both the settings and calibration interfaces. (Note: Remove the DMX signal cable connected to the control panel.)
language	Switch between Chinese and English menus	
	Middle	the Chinese language
	EN	English Menu
Screen Lock	close	Screen lock feature is turned off
	open	To prevent accidental touches after the screen goes off, unlock it before reuse.

Dimming speed	standard	Slow dimming
	fast	Quick dimming
Factory data reset	The lamp parameters return to the factory settings.	
	cancel	res sic stantibus
	affirm	Set the lamp back to its factory settings

primary menu	Submenu	Three-level menu/parameters
Address	001 - 512	(Add channel count each time; subtract the normal value)
System Settings	work pattern	DMX/Voice Control/Self-Driving 1/Self-Driving 2
	channel pattern	21CH/21+RGB (actual 78CH)/21+RGBW (actual 97CH)/23CH/23+RGBW (actual 99CH)/35CH/35+RGB (actual 92CH)/35+RGBW (actual 111CH)/21ACH (actual 29CH)/21A+RGB (actual 86CH)/21A+RGBW (actual 105CH)/23ACH (actual 31CH)/23A+RGBW (actual 107CH)/35ACH (actual 43CH)/35A+RGB (actual 100CH)/35A+RGBW (actual 119CH)
	Horizontal Flip	On/Off
	Vertical Flip	On/Off
	Optical Coupler Error Correction	On/Off
	Hall Error Correction	On/Off
	Signal Maintenance	On/Off
	Screen Protection	On/Off
	Flip the screen	On/Off/Auto
	Sync Update	On/Off
	language	Chinese/English
	Screen Lock	On/Off
	Dimming speed	Standard/Quick
	factory data reset	Confirm/Cancel
Manual mode	Current channel mode channel	0-255
System calibration	enter password	Lamp Calibration
Reset	Effect Motor Reset	Rotating motor, focusing motor reset
	Scan Motor Reset	Reset only the XY axis
	Reset all motors	Lamp reset
System info	Reduction Information	Device error message
	DMX Data Monitoring	Channel value of the control console

	sensor information	Sensor status information
	Hardware Version	Show hardware version
	software release	Show software version

Table 1



2.2 System calibration

Calibration		Calibration		Calibration	
Pan	127	Balance6-Green	255	Balance13-White	255
TILT	127	Balance6-Blue	255	Balance14-Red	255
Focus	127	Balance6-White	255	Balance14-Green	255
Rotate	127	Balance7-Red	255	Balance14-Blue	255
Balance-Red	255	Balance7-Green	255	Balance14-White	255
Balance-Green	255	Balance7-Blue	255	Balance15-Red	255
Balance-Blue	255	Balance7-White	255	Balance15-Green	255
Balance-White	255	Balance8-Red	255	Balance15-Blue	255
Powre	255	Balance8-Green	255	Balance15-White	255
Balance1-Red	255	Balance8-Blue	255	Balance16-Red	255
Balance1-Green	255	Balance8-White	255	Balance16-Green	255
Balance1-Blue	255	Balance9-Red	255	Balance16-Blue	255
Balance1-White	255	Balance9-Green	255	Balance16-White	255
Balance2-Red	255	Balance9-Blue	255	Balance17-Red	255
Balance2-Green	255	Balance9-White	255	Balance17-Green	255
Balance2-Blue	255	Balance10-Red	255	Balance17-Blue	255
Balance2-White	255	Balance10-Green	255	Balance17-White	255
Balance3-Red	255	Balance10-Blue	255	Balance18-Red	255
Balance3-Green	255	Balance10-White	255	Balance18-Green	255
Balance3-Blue	255	Balance11-Red	255	Balance18-Blue	255
Balance3-White	255	Balance11-Green	255	Balance18-White	255
Balance4-Red	255	Balance11-Blue	255	Balance19-Red	255
Balance4-Green	255	Balance11-White	255	Balance19-Green	255
Balance4-Blue	255	Balance12-Red	255	Balance19-Blue	255
Balance4-White	255	Balance12-Green	255	Balance19-White	255
Balance5-Red	255	Balance12-Blue	255	MIC	000
Balance5-Green	255	Balance12-White	255	Focus-Contron	000
Balance5-Blue	255	Balance13-Red	255	Change password	>>
Balance5-White	255	Balance13-Green	255		
Balance6-Red	255	Balance13-Blue	255		

Figure 6 System calibration interface

Press "0000" to enter the system calibration interface. Modify the values through "UP" and "DOWN" keys, which can modify the lamp power and motor travel parameters. The system calibration interface is shown in Figure 6, and the detailed content is shown in Table 2.

option	explain
initial position	After entering the sub-interface, you can adjust the initial positions of the X-axis, Y-axis, focus motor, and rotation motor. The adjustment range is 0–255, with 127 indicating no adjustment.
white balance	After entering the sub-interface, you can adjust the white balance (red, green, blue, and white) for LEDs 1–19, with an adjustment range of 0–255; 255 indicates no adjustment.
power	After entering the sub-interface, you can adjust the maximum power of the entire lamp. 255 represents the maximum power.

MIC sensitivity	Voice sensitivity adjustment: default is 127. A smaller value increases sensitivity; a larger value decreases sensitivity.
change password	Set system calibration password

Table 2

2.3 System reset

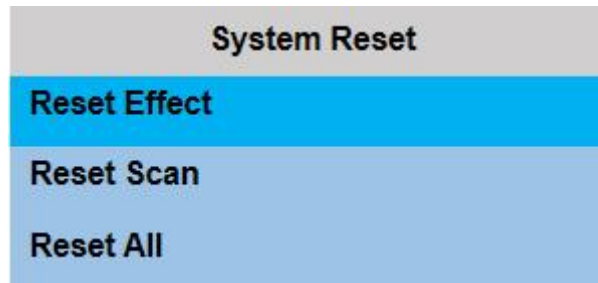


Figure 7 System reset interface

The system reset interface is shown in Figure 6. Press "UP" and "DOWN" keys to switch the reset mode, and press "ENTER" to reset directly. See Table 3 for details.

option	explain
The effect motor resets	Rotation, focusing, and other motor resets
Scan the motor reset	Only the XY axis is reset
All motors reset	The lamp is reset

Table 3

2.4 System information

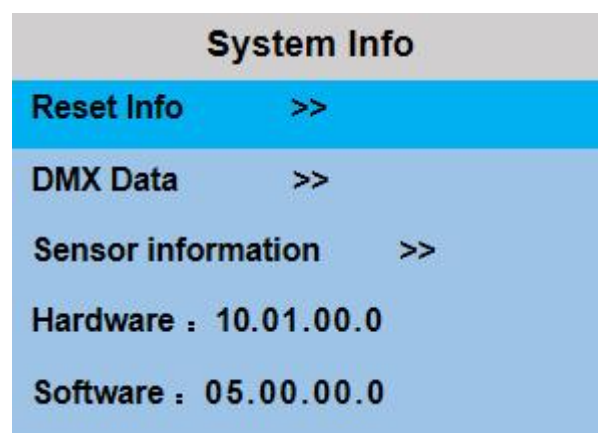


Figure 8 System information interface

Directly press "ENTER" to enter the information interface. Select the information you want to view through "UP" and "DOWN", and click "ENTER" to view the corresponding content. The system calibration interface is shown in Figure 8, and the detailed content is shown in Table 4.

option	explain
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Reduction Information	1) IC1 communication failure (indicating failed communication between the display board and the motor board) 2) IC2 communication failure (indicating failed communication between the display board and the light board) 2) Optocoupler error 3) Hall Error
DMX Data Monitoring	Check the data received by the light fixture from the corresponding channel on the control panel.
sensor information	1) Hall: <u>XXXXXX</u> Hoare sensor : <u>Y optical coupler: XXXX--XXXX</u>
Hardware version number	Lamp Hardware Information <u>XX</u> . <u>XX</u> . <u>XX</u> . <u>XX</u> ↓ ↓ ↓ ↓ Display board version. Motor board version. Light board version.
Software version number	Lamp Software Version <u>XX</u> . <u>XX</u> . <u>XX</u> . <u>XX</u> ↓ ↓ ↓ ↓ Display board version. Motor board version. Light board version.

Table 4

Chapter 3 Channel description and technical parameters

1. Channel table

The detailed data of the channel are shown in Table 5, which can also be viewed in the manual operation interface:

21 channel	21+RGB channel	21+RGBW channel	function	DMX numeric value	description
1	1	1	red	0-255	Red undergoes linear dimming from dark to bright.
2	2	2	Red Fine Adjustment	0-255	Linearly adjust the red from dark to light
3	3	3	green	0-255	The green color undergoes linear dimming from dark to bright.
4	4	4	Green Fine-Tuning	0-255	Linearly adjust the green from dark to light
5	5	5	blue	0-255	Blue undergoes linear dimming from dark to bright
6	6	6	Blue Fine-Tuning	0-255	Linearly adjust the blue from dark to light
7	7	7	white	0-255	Linear dimming from dark to bright white
8	8	8	White Fine Adjustment	0-255	Linearly adjust the white from dark to light
9	9	9	colour temperature	0-255	Linear color temperature adjustment
10	10	10	dye	0-255	Built-in color gradient
11	11	11	strobe/flash	0-3	lighting-off
				4-103	The sync strobe speed ranges from slow to fast (1 Hz to 25 Hz).
				104-107	light up
				108-207	The strobe frequency is adjusted from slow to fast (1 Hz to 25 Hz).
				208-212	light up
				213-225	Low-speed random strobe lighting
				226-238	Medium-speed random strobe
				239-251	High-speed random strobe
				252-255	light up
12	12	12	Central dimming	0-255	Linear dimming from dark to bright
13	13	13	Dimming fine adjustment	0-255	Dimming fine-tuning control
14	14	14	X axle	0-255	0-540 degrees
15	15	15	X-axis fine-tuning	0-255	16-bit adjustable
16	16	16	Y axle	0-255	0-205 degrees

17	17	17	Y-axis fine-tuning	0-255	16-bit adjustable
18	18	18	function	0-255	Reserve
19	19	19	reset	0-25	NF
				26-76	The lamp head reset is effective for 5 seconds.
				77-127	XY reduction is effective for 5 seconds
				128-255	The full reduction is valid for 5 seconds.
20	20	20	Focus	0-255	Linear adjustment of the angle from small to large
21	21	21	revolve	0-127	0-60 degrees
				128-191	Counterclockwise rotation from fast to slow without stopping
				200-255	Stepless clockwise rotation from slow to fast
	22	22	R1 LED dimming	0-255	R1 LED dimming
	23	23	G1 LED dimming	0-255	G1 LED dimming
	24	24	B1 LED dimming	0-255	B1 LED dimming
		25	W1 LED dimming	0-255	W1 LED dimming
	...	...	...	...	
	76	94	R19 LED dimming	0-255	R19 LED dimming
	77	95	G19 LED dimming	0-255	G19 LED dimming
	78	96	B19 LED dimming	0-255	B19 LED dimming
		97	W19 LED dimming	0-255	W19 LED Dimming

23 channel	23+RGB W channel	function	DMX numeric value	description
1	1	red	0-255	Red undergoes linear dimming from dark to bright.
2	2	green	0-255	The green color undergoes linear dimming from dark to bright.
3	3	blue	0-255	Blue undergoes linear dimming from dark to bright
4	4	white	0-255	Linear dimming from dark to bright white
5	5	colour temperature	0-255	Linear color temperature adjustment
6	6	dye	0-255	Built-in color gradient
7	7	strobe/flash	0-3	lighting-off

			4-103	The sync strobe speed ranges from slow to fast (1 Hz to 25 Hz).
			104-107	light up
			108-207	The strobe frequency is adjusted from slow to fast (1 Hz to 25 Hz).
			208-212	light up
			213-225	Low-speed random strobe lighting
			226-238	Medium-speed random strobe
			239-251	High-speed random strobe
			252-255	light up
8	8	Central dimming	0-255	Linear dimming from dark to bright
9	9	X axle	0-255	0–540 degrees
10	10	X-axis fine-tuning	0-255	16-bit adjustable
11	11	Y axle	0-255	0–205 degrees
12	12	Y-axis fine-tuning	0-255	16-bit adjustable
13	13	macro	0-25	NF
14	14	XY velocity	0-255	The speed decreases from fast to slow.
15	15	Focus	0-255	Linear adjustment of the angle from small to large
16	16	revolve	0-127	0–60 degrees
			128-191	Counterclockwise rotation from fast to slow without stopping
			200-255	Stepless clockwise rotation from slow to fast
17	17	Pattern Selection	0-7	not have
			8	Static Effect 1
			9	Static Effect 2
			10	Static Effect 3
			11	not have
			12	Static Effect 4
			13	Static Effect 5
			14	not have
			15	Dynamic Effect 1
			16	Dynamic Effect 2
			17	Dynamic Effect 3
			18	Dynamic Effect 4
			19	Monochrome Random

			20	Full-color random
			21	Rainbow Effect 1
			22	Rainbow Effect 2
			23	Dynamic Effect 5
			24	Dynamic Effect 6
			25	Dynamic Effect 7
			26	Dynamic Effect 8
			27	Dynamic Effect 9
			28	Dynamic Effect 10
			29	Dynamic Effect 11
			30	Dynamic Effect 12
			31	Dynamic Effect 13
			32	Dynamic Effect 14
			33	not have
			34	not have
			35	Dynamic Effect 15
			36	Dynamic Effect 16
			37	Dynamic Effect 17
			38	Dynamic Effect 18
			39	Dynamic Effect 19
			40	Dynamic Effect 20
			41	not have
			42	Dynamic Effect 21
			43	not have
			44	Dynamic Effect 22
			45	Dynamic Effect 23
			46	Dynamic Effect 24
			47	Dynamic Effect 25
			48	Dynamic Effect 26
			49	Dynamic Effect 27
			50	Dynamic Effect 28
			51	Dynamic Effect 29
			52	Dynamic Effect 30

			53	Dynamic Effect 31
			54	Dynamic Effect 32
			55	Dynamic Effect 33
			56	Dynamic Effect 34
			57	Dynamic Effect 35
			58	Dynamic Effect 36
			59	Dynamic Effect 37
			60	Dynamic Effect 38
			61	Random Position 1
			62	Random Position 2
			63	Random Position 3
			64	not have
			65	Random Position 4
			66	Random Position 5
			67	Dynamic Effect 39
			68	Dynamic Effect 40
			69	not have
			70	Dynamic Effect 41
			71-255	not have
18	18	Pattern Effect Speed	0-255	Pattern Effect Speed Control
19	19	Pattern color: Red	0-255	Pattern color: Red
20	20	Pattern color: Green	0-255	Pattern color: Green
21	21	Pattern Color: Blue	0-255	Pattern Color: Blue
22	22	Pattern color: White	0-255	Pattern color: White
23	23	reset	0-25	NF
			26-76	The lamp head reset is effective for 5 seconds.
			77-127	XY reduction is effective for 5 seconds
			128-255	The full reduction is valid for 5 seconds.
	24	R1 LED dimming	0-255	R1 LED dimming
	25	G1 LED dimming	0-255	G1 LED dimming
	26	B1 LED dimming	0-255	B1 LED dimming
	27	W1 LED dimming	0-255	W1 LED dimming
	...	...	...	

	95	R19 LED dimming	0-255	R19 LED dimming
	96	G19 LED dimming	0-255	G19 LED dimming
	97	B19 LED dimming	0-255	B19 LED dimming
	99	W19 LED dimming	0-255	W19 LED Dimming

35 channel	35+RGB channel	35+RGBW channel	function	DMX numeric value	description
1	1	1	red	0-255	Red undergoes linear dimming from dark to bright.
2	2	2	Red Fine Adjustment	0-255	Linearly adjust the red from dark to light
3	3	3	green	0-255	The green color undergoes linear dimming from dark to bright.
4	4	4	Green Fine-Tuning	0-255	Linearly adjust the green from dark to light
5	5	5	blue	0-255	Blue undergoes linear dimming from dark to bright
6	6	6	Blue Fine-Tuning	0-255	Linearly adjust the blue from dark to light
7	7	7	white	0-255	Linear dimming from dark to bright white
8	8	8	White Fine Adjustment	0-255	Linearly adjust the white from dark to light
9	9	9	colour temperature	0-255	Linear color temperature adjustment
10	10	10	dye	0-255	Built-in color gradient
11	11	11	strobe/flash	0-3	lighting-off
				4-103	The sync strobe speed ranges from slow to fast (1 Hz to 25 Hz).
				104-107	light up
				108-207	The strobe frequency is adjusted from slow to fast (1 Hz to 25 Hz).
				208-212	light up
				213-225	Low-speed random strobe lighting
				226-238	Medium-speed random strobe
				239-251	High-speed random strobe
				252-255	light up
12	12	12	Central dimming	0-255	Linear dimming from dark to bright
13	13	13	Dimming fine adjustment	0-255	Dimming fine-tuning control
14	14	14	X axle	0-255	0–540 degrees
15	15	15	X-axis fine-tuning	0-255	16-bit adjustable
16	16	16	Y axle	0-255	0–205 degrees

17	17	17	Y-axis fine-tuning	0-255	16-bit adjustable
18	18	18	function	0-255	Reserve
19	19	19	reset	0-25	NF
				26-76	The lamp head reset is effective for 5 seconds.
				77-127	XY reduction is effective for 5 seconds
				128-255	The full reduction is valid for 5 seconds.
20	20	20	Focus	0-255	Linear adjustment of the angle from small to large
21	21	21	revolve	0-127	0-60 degrees
				128-191	Counterclockwise rotation from fast to slow without stopping
				200-255	Stepless clockwise rotation from slow to fast
22	22	22	Pattern Selection	0-255	pattern rotation
23	23	23	Pattern Effect Speed	0-255	Pattern Effect Speed Control
24	24	24	Pattern effect fade	0-255	Pattern effect fade
25	25	25	Pattern color: Red	0-255	Pattern color: Red
26	26	26	Pattern color: Green	0-255	Pattern color: Green
27	27	27	Pattern Color: Blue	0-255	Pattern Color: Blue
28	28	28	Pattern color: White	0-255	Pattern color: White
29	29	29	Pattern Dimming	0-255	Pattern dimming from 0% to 100%
30	30	30	Background dimming	0-255	Background dimming from 0% to 100%
31	31	31	Pattern Effect Transition	0-255	Pattern Change Control
32	32	32	Pattern Effect Supplement	0-255	Pattern Translation
33	33	33	Frontal Stroboscopic Light	0-255	Frontal strobe (same as 11-channel)
34	34	34	Background strobe	0-255	Background strobe (same as 11-channel)
35	35	35	background selection	0-255	background selection
	36	36	R1 LED dimming	0-255	R1 LED dimming
	37	37	G1 LED dimming	0-255	G1 LED dimming
	38	38	B1 LED dimming	0-255	B1 LED dimming
		39	W1 LED	0-255	W1 LED dimming

			dimming		
	...	...	...	...	
	90	108	R19 LED dimming	0-255	R19 LED dimming
	91	109	G19 LED dimming	0-255	G19 LED dimming
	92	110	B19 LED dimming	0-255	B19 LED dimming
		111	W19 LED dimming	0-255	W19 LED Dimming

21A channel	21A+RGB channel	21A+RGBW channel	function	DMX numeric value	description
1	1	1	red	0-255	Red undergoes linear dimming from dark to bright.
2	2	2	Red Fine Adjustment	0-255	Linearly adjust the red from dark to light
3	3	3	green	0-255	The green color undergoes linear dimming from dark to bright.
4	4	4	Green Fine-Tuning	0-255	Linearly adjust the green from dark to light
5	5	5	blue	0-255	Blue undergoes linear dimming from dark to bright
6	6	6	Blue Fine-Tuning	0-255	Linearly adjust the blue from dark to light
7	7	7	white	0-255	Linear dimming from dark to bright white
8	8	8	White Fine Adjustment	0-255	Linearly adjust the white from dark to light
9	9	9	colour temperature	0-255	Linear color temperature adjustment
10	10	10	dye	0-255	Built-in color gradient
11	11	11	strobeflash	0-3	lighting-off
				4-103	The sync strobe speed ranges from slow to fast (1 Hz to 25 Hz).
				104-107	light up
				108-207	The strobe frequency is adjusted from slow to fast (1 Hz to 25 Hz).
				208-212	light up
				213-225	Low-speed random strobe lighting
				226-238	Medium-speed random strobe
				239-251	High-speed random strobe
				252-255	light up
12	12	12	Central dimming	0-255	Linear dimming from dark to bright

13	13	13	Dimming fine adjustment	0-255	Dimming fine-tuning control
14	14	14	X axle	0-255	0-540 degrees
15	15	15	X-axis fine-tuning	0-255	16-bit adjustable
16	16	16	Y axle	0-255	0-205 degrees
17	17	17	Y-axis fine-tuning	0-255	16-bit adjustable
18	18	18	function	0-255	Reserve
19	19	19	reset	0-25	NF
				26-76	The lamp head reset is effective for 5 seconds.
				77-127	XY reduction is effective for 5 seconds
				128-255	The full reduction is valid for 5 seconds.
20	20	20	Focus	0-255	Linear adjustment of the angle from small to large
21	21	21	revolve	0-127	0-60 degrees
				128-191	Counterclockwise rotation from fast to slow without stopping
				200-255	Stepless clockwise rotation from slow to fast
22	22	22	Light strip dimming	0-255	The light strip dimming provides linear adjustment from dark to bright at 0-100%.
23	23	23	Light strip strobe	0-4	NF
				5-250	The light strip strobe gradually increases in speed from slow to fast.
				251-255	NF
24	24	24	The light strip is red.	0 - 255	The light strip is red from 0% to 100%.
25	25	25	The light strip is green.	0 - 255	Light strip green 0-100%
26	26	26	The light strip is blue	0 - 255	Light strip blue 0-100%
27	27	27	The light strip is white.	0 - 255	Light strip white 0-100%
28	28	28	Light strip effect	0-7	Light strip dimming mode
				8-255	Light strip effect
29	29	29	Light strip effect speed	0-127	The light strip effect moves counterclockwise from fast to slow.
				128-255	The light strip effect progresses clockwise from slow to fast.
	30	30	R1 LED dimming	0-255	R1 LED dimming
	31	31	G1 LED	0-255	G1 LED dimming

			dimming		
	32	32	B1 LED dimming	0-255	B1 LED dimming
		33	W1 LED dimming	0-255	W1 LED dimming
	...	...	...	...	
	84	102	R19 LED dimming	0-255	R19 LED dimming
	85	103	G19 LED dimming	0-255	G19 LED dimming
	86	104	B19 LED dimming	0-255	B19 LED dimming
		105	W19 LED dimming	0-255	W19 LED Dimming

23A channel	23A+RGB W channel	function	DMX numeric value	description
1	1	red	0-255	Red undergoes linear dimming from dark to bright.
2	2	green	0-255	The green color undergoes linear dimming from dark to bright.
3	3	blue	0-255	Blue undergoes linear dimming from dark to bright
4	4	white	0-255	Linear dimming from dark to bright white
5	5	colour temperature	0-255	Linear color temperature adjustment
6	6	dye	0-255	Built-in color gradient
7	7	stroboflash	0-3	lighting-off
			4-103	The sync strobe speed ranges from slow to fast (1 Hz to 25 Hz).
			104-107	light up
			108-207	The strobe frequency is adjusted from slow to fast (1 Hz to 25 Hz).
			208-212	light up
			213-225	Low-speed random strobe lighting
			226-238	Medium-speed random strobe
			239-251	High-speed random strobe
			252-255	light up
8	8	Central dimming	0-255	Linear dimming from dark to bright
9	9	X axle	0-255	0–540 degrees
10	10	X-axis fine-tuning	0-255	16-bit adjustable
11	11	Y axle	0-255	0–205 degrees
12	12	Y-axis fine-tuning	0-255	16-bit adjustable

13	13	macro	0-25	NF
14	14	XY velocity	0-255	The speed decreases from fast to slow.
15	15	Focus	0-255	Linear adjustment of the angle from small to large
16	16	revolve	0-127	0-60 degrees
			128-191	Counterclockwise rotation from fast to slow without stopping
			200-255	Stepless clockwise rotation from slow to fast
17	17	Pattern Selection	0-7	not have
			8	Static Effect 1
			9	Static Effect 2
			10	Static Effect 3
			11	not have
			12	Static Effect 4
			13	Static Effect 5
			14	not have
			15	Dynamic Effect 1
			16	Dynamic Effect 2
			17	Dynamic Effect 3
			18	Dynamic Effect 4
			19	Monochrome Random
			20	Full-color random
			21	Rainbow Effect 1
			22	Rainbow Effect 2
			23	Dynamic Effect 5
			24	Dynamic Effect 6
			25	Dynamic Effect 7
			26	Dynamic Effect 8
			27	Dynamic Effect 9
			28	Dynamic Effect 10
			29	Dynamic Effect 11
			30	Dynamic Effect 12
			31	Dynamic Effect 13
			32	Dynamic Effect 14
			33	not have
			34	not have

			35	Dynamic Effect 15
			36	Dynamic Effect 16
			37	Dynamic Effect 17
			38	Dynamic Effect 18
			39	Dynamic Effect 19
			40	Dynamic Effect 20
			41	not have
			42	Dynamic Effect 21
			43	not have
			44	Dynamic Effect 22
			45	Dynamic Effect 23
			46	Dynamic Effect 24
			47	Dynamic Effect 25
			48	Dynamic Effect 26
			49	Dynamic Effect 27
			50	Dynamic Effect 28
			51	Dynamic Effect 29
			52	Dynamic Effect 30
			53	Dynamic Effect 31
			54	Dynamic Effect 32
			55	Dynamic Effect 33
			56	Dynamic Effect 34
			57	Dynamic Effect 35
			58	Dynamic Effect 36
			59	Dynamic Effect 37
			60	Dynamic Effect 38
			61	Random Position 1
			62	Random Position 2
			63	Random Position 3
			64	not have
			65	Random Position 4
			66	Random Position 5
			67	Dynamic Effect 39
			68	Dynamic Effect 40

			69	not have
			70	Dynamic Effect 41
			71-255	not have
18	18	Pattern Effect Speed	0-255	Pattern Effect Speed Control
19	19	Pattern color: Red	0-255	Pattern color: Red
20	20	Pattern color: Green	0-255	Pattern color: Green
21	21	Pattern Color: Blue	0-255	Pattern Color: Blue
22	22	Pattern color: White	0-255	Pattern color: White
23	23	reset	0-25	NF
			26-76	The lamp head reset is effective for 5 seconds.
			77-127	XY reduction is effective for 5 seconds
			128-255	The full reduction is valid for 5 seconds.
24	24	Light strip dimming	0-255	The light strip dimming provides linear adjustment from dark to bright at 0–100%.
25	25	Light strip strobe	0-4	NF
			5-250	The light strip strobe gradually increases in speed from slow to fast.
			251-255	NF
26	26	The light strip is red.	0 - 255	The light strip is red from 0% to 100%.
27	27	The light strip is green.	0 - 255	Light strip green 0-100%
28	28	The light strip is blue	0 - 255	Light strip blue 0-100%
29	29	The light strip is white.	0 - 255	Light strip white 0-100%
30	30	Light strip effect	0-7	Light strip dimming mode
			8-255	Light strip effect
31	31	Light strip effect speed	0-127	The light strip effect moves counterclockwise from fast to slow.
			128-255	The light strip effect progresses clockwise from slow to fast.
	32	R1 LED dimming	0-255	R1 LED dimming
	33	G1 LED dimming	0-255	G1 LED dimming
	34	B1 LED dimming	0-255	B1 LED dimming
	35	W1 LED dimming	0-255	W1 LED dimming
	...	...	...	
	104	R19 LED dimming	0-255	R19 LED dimming
	105	G19 LED dimming	0-255	G19 LED dimming
	106	B19 LED dimming	0-255	B19 LED dimming

	107	W19 LED dimming	0-255	W19 LED Dimming
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35A channel I	35A+RGB channel	35A+RGB W channel	function	DMX numeric value	description
1	1	1	red	0-255	Red undergoes linear dimming from dark to bright.
2	2	2	Red Fine Adjustment	0-255	Linearly adjust the red from dark to light
3	3	3	green	0-255	The green color undergoes linear dimming from dark to bright.
4	4	4	Green Fine-Tuning	0-255	Linearly adjust the green from dark to light
5	5	5	blue	0-255	Blue undergoes linear dimming from dark to bright
6	6	6	Blue Fine-Tuning	0-255	Linearly adjust the blue from dark to light
7	7	7	white	0-255	Linear dimming from dark to bright white
8	8	8	White Fine Adjustment	0-255	Linearly adjust the white from dark to light
9	9	9	colour temperature	0-255	Linear color temperature adjustment
10	10	10	dye	0-255	Built-in color gradient
11	11	11	strobeflash	0-3	lighting-off
				4-103	The sync strobe speed ranges from slow to fast (1 Hz to 25 Hz).
				104-107	light up
				108-207	The strobe frequency is adjusted from slow to fast (1 Hz to 25 Hz).
				208-212	light up
				213-225	Low-speed random strobe lighting
				226-238	Medium-speed random strobe
				239-251	High-speed random strobe
				252-255	light up
12	12	12	Central dimming	0-255	Linear dimming from dark to bright
13	13	13	Dimming fine adjustment	0-255	Dimming fine-tuning control
14	14	14	X axle	0-255	0–540 degrees
15	15	15	X-axis fine-tuning	0-255	16-bit adjustable
16	16	16	Y axle	0-255	0–205 degrees
17	17	17	Y-axis fine-tuning	0-255	16-bit adjustable

18	18	18	function	0-255	Reserve
19	19	19	reset	0-25	NF
				26-76	The lamp head reset is effective for 5 seconds.
				77-127	XY reduction is effective for 5 seconds
				128-255	The full reduction is valid for 5 seconds.
20	20	20	Focus	0-255	Linear adjustment of the angle from small to large
21	21	21	revolve	0-127	0–60 degrees
				128-191	Counterclockwise rotation from fast to slow without stopping
				200-255	Stepless clockwise rotation from slow to fast
22	22	22	Pattern Selection	0-255	pattern rotation
23	23	23	Pattern Effect Speed	0-255	Pattern Effect Speed Control
24	24	24	Pattern effect fade	0-255	Pattern effect fade
25	25	25	Pattern color: Red	0-255	Pattern color: Red
26	26	26	Pattern color: Green	0-255	Pattern color: Green
27	27	27	Pattern Color: Blue	0-255	Pattern Color: Blue
28	28	28	Pattern color: White	0-255	Pattern color: White
29	29	29	Pattern Dimming	0-255	Pattern dimming from 0% to 100%
30	30	30	Background dimming	0-255	Background dimming from 0% to 100%
31	31	31	Pattern Effect Transition	0-255	Pattern Change Control
32	32	32	Pattern Effect Supplement	0-255	Pattern Translation
33	33	33	Frontal Stroboscopic Light	0-255	Frontal strobe (same as 11-channel)
34	34	34	Background strobe	0-255	Background strobe (same as 11-channel)
35	35	35	background selection	0-255	background selection
36	36	36	Light strip dimming	0-255	The light strip dimming provides linear adjustment from dark to bright at 0–100%.
37	37	37	Light strip strobe	0-4	NF
				5-250	The light strip strobe gradually increases in speed from slow to fast.
				251-255	NF

38	38	38	The light strip is red.	0 - 255	The light strip is red from 0% to 100%.
39	39	39	The light strip is green.	0 - 255	Light strip green 0-100%
40	40	40	The light strip is blue	0 - 255	Light strip blue 0-100%
41	41	41	The light strip is white.	0 - 255	Light strip white 0-100%
42	42	42	Light strip effect	0-7	Light strip dimming mode
				8-255	Light strip effect
43	43	43	Light strip effect speed	0-127	The light strip effect moves counterclockwise from fast to slow.
				128-255	The light strip effect progresses clockwise from slow to fast.
	44	44	R1 LED dimming	0-255	R1 LED dimming
	45	45	G1 LED dimming	0-255	G1 LED dimming
	46	46	B1 LED dimming	0-255	B1 LED dimming
		47	W1 LED dimming	0-255	W1 LED dimming
	...	...	...	...	
	98	116	R19 LED dimming	0-255	R19 LED dimming
	99	117	G19 LED dimming	0-255	G19 LED dimming
	100	118	B19 LED dimming	0-255	B19 LED dimming
		119	W19 LED dimming	0-255	W19 LED Dimming

Table 5

2. Technical Specifications

Power input: 100–240 V, 50/60 Hz;

Total power: 1200W;

Primary light source: 19×60W RGBW LED;

Fill light: 114 * 1.5W RGBW LED;

Channel modes: 21CH/21+RGB(actual 78CH)/21+RGBW (actual 97CH)/23CH/23+RGBW (actual 99CH)/35CH/35+RGB (actual 92CH)/35+RGBW (actual 111CH)/21ACH (actual 29CH)/21A+RGB(actual 86CH)/21A+RGBW(actual 105CH)/23ACH(actual 31CH)/23A+RGBW(actual 107CH)/35ACH(actual 43CH)/35A+RGB(actual 100CH)

Control Protocol: DMX512 RDM;

Operating modes: DMX, voice-controlled, Auto 1, Auto 2;

Display screen and main control: LCD display, supports switching between Chinese and English; can query lamp information;

Dimming: Linear dimming from 0% to 100%;

Intelligent cooling: Temperature sensing detection, fan speed automatically adjusted;

Software upgrade: Upgrade the software via DMX connection;

Precision: 16-bit precision scanning;

Scan

Horizontal scan: 540° (16-bit resolution)

Vertical scan: 205° (16-bit resolution)

It features an automatic error-correction reset function;

Structure: Metal, black;

Signal Input/Output

Three-core Canon head socket (five-core optional)

Power socket; Power connector input/output;

Water resistance rating: IP65;

Net weight: 25KG

Product size: 440×341×541MM

Chapter 4 Common faults and usage precautions

1.Common troubleshooting

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

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

Possible reasons: The bulb is not completely cooled, or the bulb has reached its life. Handle as follows:

- Due to abnormal operation, the bulb is not completely cooled. The lamp body should be cooled for more than 10 minutes to make its internal state fully restored to normal, and then start the power supply again;
- Check whether the bulb has reached its service life, and replace the new bulb;
- Check whether the bulb and lamp wiring are leaking, falling off or in poor contact;
- Replace the new light.

2. The beam appeared dim

Possible reasons: the bulb has been used for a long time or the light path is not clean. Handle as follows:

- Check whether the bulb has reached its service life, and replace the new bulb;
- Check whether the optical parts or bulbs are clean, and whether there is dust accumulated on the optical devices such as bulbs. The bulbs and other components in the lamps should be cleaned and maintained regularly.

3. Pattern projection is blurred

- Check that the electron focus channel value is appropriate for the current projection distance.

4. The lights work intermittently

Possible reasons: The internal line enters the protection state. Handle as follows:

- Check whether the fan is running normally or dirty, resulting in the internal temperature of the lamp rising;
- Check whether the internal temperature control switch is closed;
- Check whether the bulb has reached its service life and replace it with a new one.

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

Possible reasons: signal line fault or lamp parameter setting is not normal, the treatment is as follows:

- Check the starting address code and check the connection of DMX signal lines (whether the signal cable is intact, whether the connector is loose);
- Add signal amplifier, add 120 ohm terminal resistor;

6. The lamp cannot be started

Possible cause: poor power line. Handle as follows:

- Check whether the fuse on the power input socket is blown, and replace the fuse;
- The lamp circuit is not in good contact due to vibration during long distance transportation
- Check the input power supply, computer board and other plug-in devices.

2. Use precautions

- Check whether the local power supply meets the rated voltage requirements of the product, and whether the leakage protector and overcurrent protector meet the requirements of the load;
- Do not use the power cord with damaged insulation layer, and do not connect the power cord to other wires;
- The lamp is cooled by strong wind and is easy to accumulate dust. It must be cleaned once a month, especially the air outlet for heat dissipation. Otherwise, the dust will block it, resulting in poor heat dissipation and abnormal lighting.
- When installing the lamp, the fixing screws must be tightened, and the safety rope should be added, and checked regularly;
- When the lamp is installed and positioned, any point on the surface of the lamp should be kept at a minimum distance of 10 meters from any inflammable and explosive objects, and 2.5 meters away from the irradiation object. Please do not directly install the lamp on the surface of combustible substances;
- It is recommended that the continuous working time of the lamp should not exceed 10 hours, and the interval time between continuous starting of the lamp should not be less than 10 minutes, otherwise it will not be able to trigger normally due to the protection of the bulb overheating;
- The time for closing the switch valve should not exceed 5 minutes. If it is necessary to close the light for a long time, the light should be turned off by using the console (light control channel);
- In order to ensure that multiple lamps better comply with the scene effect, the lamps should not always be in an incomplete current scene, that is, start the next scene action, and it is best that this state does not exceed 3 minutes to ensure that multiple lamps can run synchronously;
- In use, if the lamp is abnormal, it should be stopped in time to prevent other faults.

3. Precautions for using RDM

RDM is an extended version of the DMX512-A protocol, which is a Remote Device Management (RDM) protocol. The traditional DMX512 communication protocol is one-way communication, and the protocol is based on the RS-485 bus. RS-485 is a time-sharing, half-duplex protocol that allows only one port to be output to the host at any given time. Therefore, when using RDM, you should pay attention to the following points:

- Use a console or host device that supports the RDM protocol;
- To use the two-way signal amplifier, the traditional one-way signal amplifier is not suitable for the RDM protocol, because the RMD protocol requires feedback data, using the one-way amplifier will block the return data, resulting in the search for lamps;
- All lamps must be set to DMX mode to ensure that only one host is on the signal line;
- A 120ohm impedance matching resistor must be inserted between terminal 2 and 3 of the terminal plug. When the signal line is relatively long, the use of differential signals will be more stable to reduce signal reflection, which is conducive to the quality of communication;
- When the lamp is controlled by DMX but cannot search the lamp by RDM, check the signal amplifier first, and then check whether there is a contact failure between line 2 and line 3 of the signal line.