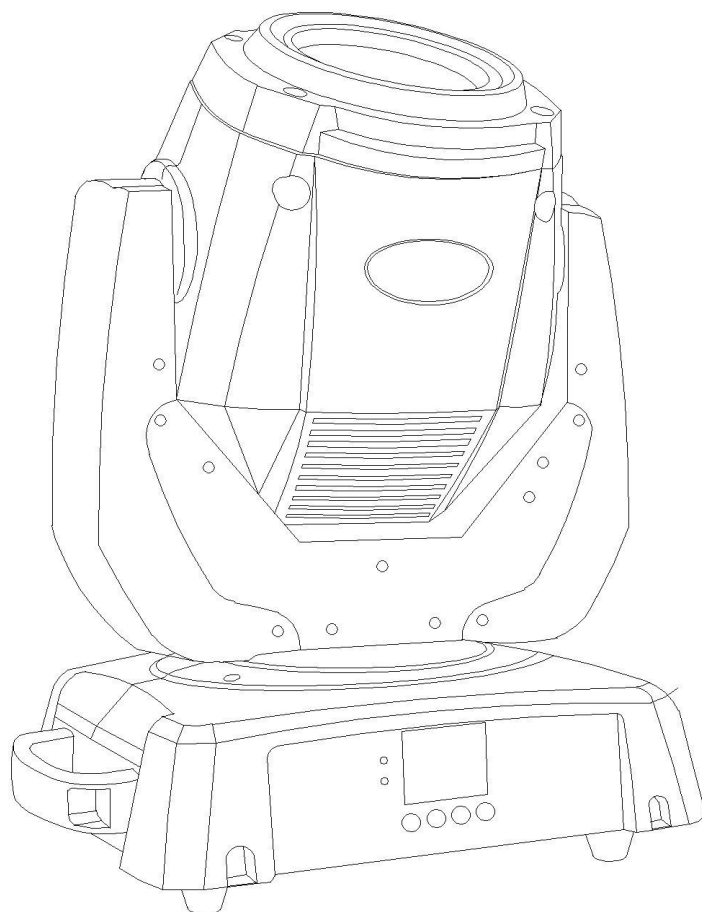


## BEAM120 MOVING HEAD



**User manual**

# Catalogue

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## 1、 Package checking

First of all thank you for choose our products. Please read the user manual carefully , completely and keep it properly , in order to use as a reference. This user manual contains important information about the installation and using .When installing and using the Beam2R this manual must be strictly observed.

This moving head light adopts the new type high strength heat-resistant engineering plastics and cast aluminum shell, elegant, smooth, fully embodies the characteristics of modern lighting products. It strictly according to CE standard design production, full in line with the international standard DMX512 protocol, as well as a single control, also can use separating into each other, suitable for large-scale theatrical performances, theaters ,studios and discos and other places.

When you got the products, please be careful to pick & place, check if the products have be damaged during the transportation, and check the following parts:

Power cable-----	1pcs	Hook & hook holder-----	2 set
User manual-----	1pcs	Signal cable-----	1pcs
Warranty card-----	1pcs	Safe rope-----	1pcs

## 2、 Technical parameters and performance characteristics

1.Input voltage: 100-240V / 50-60HZ., Rated power: 220W.

2.Light source: Philips 2R bulb / Yodn ( optional) Bulb power: 120W

Color temperature: 8000K Bulb service life: 2000h

3.Self-locking anti-loose design power plug, 1.8 meter power cable( standard)

4.Gold-plated three pin XLR socket (1 in 1 out)

- 5.Color: 13 colors+blank, Color wheel with 2 channel control mode,which can realize the rainbow, half color, full color, watering and other effects.
- 6.Gobo: 14 fixed gobo+blank, with many effects such as gobo jitter, watering.
- 7.Prism: Rotated 8 face prism, prism angle 15 degree,can double direction rotation,45 degree twist light beam effect.
- 8.Lens: High temperature composite optical lens
- 9.Beam angle: 0-6 degree ( without prism)
- 10.Focus:0-100% linear focus ( from near to far)
- 11.Dimming:0-100% linear dimming
- 12.Strobe:Monolithic mechanical strobe (1-15 times/second)
13. Scan angel : X : 540 Y : 235 16bit/8bit control, double sensor positioning, with automatic error correction function.
- 14.Motor quantity: totally 9 mute motor, 16bit/8bit drive control
- 15.Display:1.7 inch color LCD display screen, can display both English and Chinese,180 degree reverse display, with bulb changes prompt functions. Internal sensor information display, can be manually controlled light correction, reset and display the use time of lamps and bulbs.
- 16.Control mode: International DMX512 signal, sound control
- 17.Channel: 16 channels
- 18.Other function: Electronic bulb light up, remote control the bulb on and off.
- 19.Appearance: high temperature resistant ABS + moulded plastic alloy material
- 20.Protect level: IP20
- 21.Cartan packing size: ( L×W×H ) : 415×315×515 ( mm )  
Beam 2R size: : ( L×W×H ) 330×230×420(mm)  
N.W: 10.5kg G.W: 14kg

### **3、Attentions**

1. In order to guarantee the service life , this product should not put in the damp and leaking places, also can not work in a environment that the temperature is more than 60 degree.
2. Do not place this product where easy to loose or easy to vibrate.
- 3.To avoid the risk of electric shock, the product maintenance consult professional maintenance.
4. When the bulb light up, the power voltage change should not be more than 10%, the voltage too high will shorten the use life, the voltage too low will affect the light color.
5. After power off, can use again only the bulb is fully cooling after 20 minutes.
6. In order to guarantee the normal use of this product, please read this user manual carefully.

### **4、Installation**

- 1、 Before installation , please make sure the power supply is the same as that marked on the product.
- 2、 The cable connected to the main power must conform to the requirements, not overload..
- 3、 Should ask professional person to installation, the product should be fixed safely and reliably, and adjust to the suitable lighting angle.
- 4、 Please ensure there is no other equipment or decorative materials that blockage the ventilation fan and the exhaust passage.
- 5、 At the bottom have the safe rope connecting hole, for security reasons, please use the safe rope which can bear 10 times weight of the product to auxiliary hoisting.

- 6、 When install the equipment, please ensure that within the scope of at least 1.5 meters without extremely flammable and explosive items (ornaments, etc.) , ensure that the interval between the product and the wall should be more than 20cm.
- 7、 It can be fixed hanging installation and use on the floor.
- 8、 For security , it is very important to make the ground line well grounded.

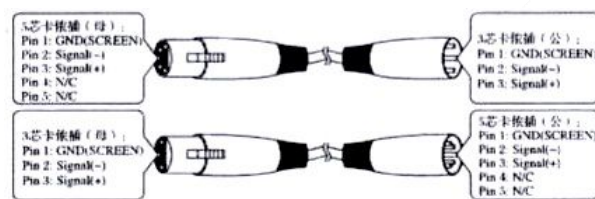
## **5、 Bulb installation and replacement**

- 1、 In order to prolong the bulb service life as long as possible , please choose the same model bulb as the original one.
- 2、 First of all , unscrew the four screws on the back cover of the lamp, open the back cover , hold the bulb 's ceramic socket counterclockwise rotated 90 degree, take out the bulb.
- 3、 Unpack the new bulb package carefully, take out the new bulb, hold the ceramic socket of the bulb, clockwise rotate 90°after insert the bulb holder.

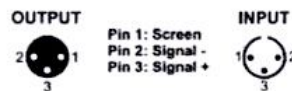
## **6、 Signal cable connecting**

Connected one side of the signal cable to the 3 pin XLR outlet of the console and the other side to another lamp's signal inputs. You can repeat it to connect all the lamps. Then connect the loop to the last lamp's signal output port, finished the connection. See the following picture:

Note: we advice to use a DMX terminal device. This vill prevent the DMX signal be disturbed by the electricity signal. This terminal is to add a 120 euros resistance between the XLR plug with another 2 pin or 3 pin connected to the next XLR plug. This moving head use the 3 pin XLR socket(plug), if your controller use 5pin XLR socket (plug), you need a 5 pin to 3 pin tieline, see the



三芯卡侬插 ( Canon ) DMX512接口线路

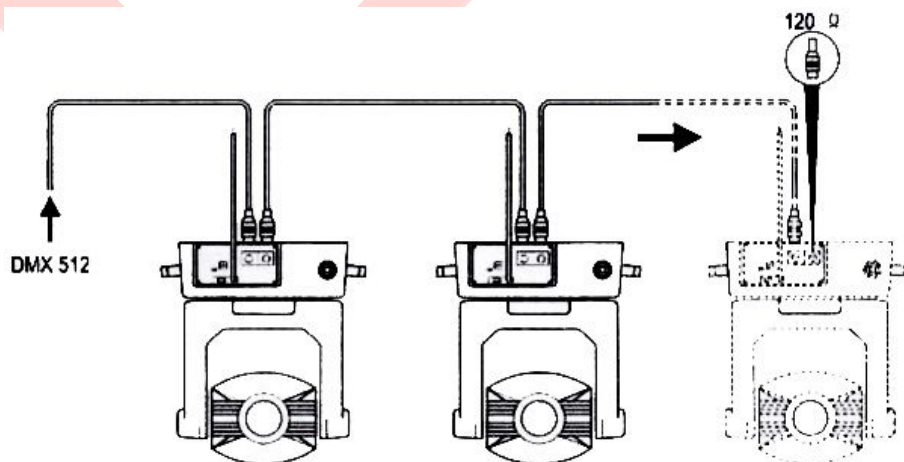


following picture:

## 7、Executive function, start editing, exit the editor

Take the “ modify DMX address code”as and example, to introduce the use of the key:

- 1、 If current is not the main interface, press“left” key ( one or more times) can come to the main interface.
- 2、 On main interface, press “up” key or “down” key to select the “ set” key.



- 3、 Press “Enter” key, come to the “set”interface.

- 4、 On “set”interface, press “up”key or “down”key to select the “DMX address”
  - 5、 Press “Enter” key come to the edit state
  - 6、 Press “up” or “down” key to modify the DMX address
  - 7、 Press “Enter”key to exit the edit state If use touch screen, the process is more convenient and fast:
- 1、 On the main interface touch “set” button , come to the “set” interface
  - 2、 Is the same as step 4~7 ( you can use both the physical keys and touch keys.

## 8. Menu instruction

### 2R V2 control board ( instruction )

#### Menu structure:

Main interface ----set----running mode

- DMX address
- channel mode
- X reversal
- Y reversal
- Y reversal
- XY encoder
- No DMX signal
- Screen protect
- power on and bulb light up
- color wheel linear change
- Default settings

---Manual operation

---System ----Software version

- DMX channel value monitoring
- System error record
- The total use time
- The Current use time

---The total bulb light up time

---The current bulb light up time

-Advanced ----Sensors monitoring

----Reset calibrate

----The maximum bulb light up time

----The bulb light up time reset

---Chinese-English shift

---Screen rotation

## Set

Options	Introductions	
Running mode	DMX	Slave status : receiving DMX signals from the controller of Master
	Auto 1	Master status: Auto running and send DMX signal to the Slave
	Auto 2	
	Auto 3	
	Auto 4	
	Built-in effect 1	
	Built-in effect 2	
	Built-in effect 3	
	Built-in effect 4	
	Stochastic auto running	
	Sound	
DMX address	1~512	Press "ENTER" key to enter edit state, then selected the Hundreds' and press the "UP""DOWN" key to change the address code. Press "ENTER" key again to selected the Tens

		and editor it. Press “ENTER” one more time to selected the Units and editor it. Press “ENTER” again to exit the editor.
X reversal	off	
	on	
Y reversal	off	
	on	
XY exchange	off	
	on	Exchange the XY channels ( include fine adjustment)
XY encoder	on	Using encoder (light coupling) judging out-of-step and automatically correct position
	off	Do not use the encoder (light coupling) correct position
No DMX signal	keep	running Continues according to the original state
	reset	The motor return, stop running
Screen protect	on	Close the backlit after idle for 30 seconds
	off	Backlit always light up
Power on & bulb light up	off	Reset directly after power on, not light bulb( need to light bulb with menu or controller manually)
	on	The bulb light automatically after power on, and reset until the bulb light up successfully.
Default settings		Press “ENTER” key will see the confirmation dialog, press the “ENTER” key again to restore the default settings.

## Manual control

This interface is used to control the current lights, and at the same time automatically enter the Master status( not receiving DMX signal, sent a DMX signal to the Slave from the Master)

Manual menu will display 16 channels or 20 channels according to the 16 channel or extended 20 channel standard on the setting menu.

Options	Introductions	
1CH. Color wheel	0~255	Press “ENTER” key come to the edit state. The selected is hundreds, press the “UP”“DOWN” key to change channel value. Press “ENTER” key again to edit the Tens . Press “ENTER” one more time to edit the Units. Then press “ENTER” to exit the edit state.
.....	0~255	
14CH.Macro	0~255	
15CH. Reset		Press “ENTER” key will see the confirmation dialog, press “ENTER” key again, come to the reset interface, reset all the motor.
16CH. Bulb control	on	
	off	
17CH. XY speed	0~255	Display when the channel mode is “expand CH20”
18CH. Color wheel speed	0~255	Display when the channel mode is “expand CH20”
19CH.dimming-prism-atomization speed	0~255	Display when the channel mode is “expand CH20”
20CH. Gobo wheel speed	0~255	Display when the channel mode is “expand CH20”

## System information

Options	Introductions
Software version	Current software version
DMX channel value	Enter the sub interface, display the channel value as number and percentage for viewing
System error record	If the red ERR indicator light up, means the lights operation error, can enter the sub interface for details. Can press “clear” key to empty the error record after view it.
Total using time	Cumulative using time ( accurate to minutes)
Current using time	The using time of this time when power on ( accurate to minutes)

Total bulb light up time	Cumulative bulb light up time(accurate to minutes)
Current bulb light up time	The bulb light up time of this time (accurate to minutes)

Error information	introduction
Motor reset error, A serial port error	Driver board no respond. The serial port communication line which connect display board and driver board have problems, or the driver board have problem.
X axis reset failed	X axis optocoupler , Or the X axis motor have problem
Y axis reset failed	Y axis optocoupler , or the Y axis motor have problem
X axis Hall error"	X axis hall have problem
Y axis Hall error	Y axis hall have problem
Color wheel reset failed	Color wheel hall or color wheel motor have problem
Gobo wheel reset failed	Gobo wheel hall or gobo wheel motor have problem.
Focus reset failed	Focus hall or focus motor have problem
Prism focus reset failed	Prism focus hall or prism focus motor have problem
Bulb control failed	bulb light up or shut failed, the bulb board or bulb have problem.
Bulb light up too long please change bulb	Total bulb light up time is more than the maximum bulb light up time that settled in the "Advanced" menu, prompt user to change the bulb. Clear the bulb light time in the "Advanced" menu after change the bulb, the bulb light up time will timing again.

## . Advanced

Here set a password to prevent the non-professional workers wrong

operation. The default password is “UP DOWN UP DOWN” . Press “ENTER” key to authenticate the password.

Options		Introductions
Reset calibration		When enter the Sub interface , can adjust the reset position of the X axis and Y axis to recover the error of hardware installation,
Maximum bulb service time		0-9999 hours , The system will have alarm remind when it reach the maximum bulb service time.
Bulb service time reset		After reset, the bulb service light will time again.
Sensor monitor		Monitor all the optocoupler and Hall sensor state in any time.

## 9、Channel table

Channel	Channel mode
	16
1	Color 1 ( color linear)
2	Blackout/ strobe
3	Dimming
4	Gobo wheel
5	Prism
6	Prism rotation
7	Macro
8	Color 2 (color no linear)
9	Focus
10	X
11	X fine
12	Y
13	Y fine
14	XY speed

15	Reset
16	Bulb control

## . CH1: LINEAR COLOR

BIT	EFFECT	Note
5	WHITE + RED	In order to facilitate memory, color value is always in multiples of 5.  Linear changes:  Color ratio is adjustable, such as: value is 5, the white is 50%, scarlet is 50%. If value is 4, the white is 60%,scarlet 40%. And when the value is 6 , then the white is 40% and the scarlet is 60%.
10	RED	
15	RED + GREEN	
20	LIGHT GREEN	
25	LIGHT GREEN + LIGHT BLUE	
30	LIGHT BLUE	
35	LIGHT BLUE +LIGHT YELLOW	
40	LIGHT YELLOW	
45	LIGHT YELLOW + ROSE	
50	ROSE	
55	ROSE + Dark green	
60	Dark green	
65	ORANGE + Dark green	
70	ORANGE	
75	ORANGE + CCT	
80	CCT	
85	CCT + PINK	
90	PINK	

95	PINK + DARK BLUE
100	DARK BLUE
105	DARK BLUE + CTO
110	CCT
115	CCT+ AMBER
120	AMBER
125	AMBER + UV
130	UV
135	UV+ WHITE
140	COLOR WHEEL SLOW ROTATION
.....	.....
255	COLOR WHEEL FAST ROTATION

**CH2: STROBE**

BIT	EFFECT	Note
0-3	CLOSED	
4	SLOW STROBE	
.....	.....	
207	FAST STROBE	
208-212	OPEN	Controlled by dimming channel
213-225	RANDOM SLOW STROBE	
226-238	RANDOM MEDIUM STROBE	
239-251	RANDOM FAST STROBE	
252-255	OPEN	Controlled by dimming channel

**CH3: LINEAR DIMMING(0--100%)**

<b>BIT</b>	<b>EFFECT</b>	<b>Note</b>
0	0%	
.....	.....	
255	100%	

**CH4: Gobo**

<b>BIT</b>	<b>EFFECT</b>	<b>Note</b>
0	WHITE	Value always in multiples of 5
5	GOBO 1	
10	GOBO 2	
15	GOBO 3	
20	GOBO 4	
25	GOBO 5	
30	GOBO 6	
35	GOBO 7	
40	GOBO 8	
45	GOBO 9	
50	GOBO 10	
55	GOBO 11	
60	GOBO 12	
65	GOBO 13	
70	GOBO 14	
75	FAST ROTATION	
.....	.....	
129	SLOW ROTATION	
130-1	STOP	

135	SLOW ROTATION	
.....	.....	
185	FAST ROTATION	
186	GOBO 1 SHAKE, SLOW	Every numeric value corresponding to a gobo
.....	.....	
190	GOBO 1 SHAKE, FAST	
191	GOBO 2 SHAKE, SLOW	
.....	.....	
195	GOBO 2 SHAKE, FAST	
.....	.....	
246	GOBO 16 SHAKE, SLOW	
.....	.....	
250	GOBO 16 SHAKE,FAST	
251	GOBO17 SHAKE,SLOW	
.....	.....	
255	GOBO 17 SHAKE,FAST	

**CH5: PRISM**

BIT	EFFECT	Note
0-127	PRISM EXCLUDED	
128-255	PRISM INSERTED	

**CH6: PRISM ROTATION**

BIT	EFFECT	Note
0-63	POSITION	
64	FAST ROTATION	
.....	.....	
127	SLOW ROTATION	

128	SLOW ROTATION	
.....	.....	
191	FAST ROTATION	
192	SLOW ROTATION	
.....	.....	
255	FAST ROTATION	

**CH7: MACRO**

BIT	EFFECT	Note
0-10	NONE	Each 5 values a scene
11-80	COLOR RAINBROW EFFECT	
81-255	COLOR, PRISM, SPOT, STROBE, MACRO	

**CH8: COLOR OF NONLINEAR**

BIT	EFFECT	Note
0	WHITE	
5	WHITE +COLOR1	
10	COLOR1	
15	COLOR1 + COLOR2	
20	COLOR2	
25	COLOR2 + COLOR3	
30	COLOR3	
35	COLOR3 + COLOR4	
40	COLOR4	
45	COLOR4 + COLOR5	
50	COLOR5	
55	COLOR5 + COLOR6	
60	COLOR6	
65	COLOR6 + COLOR7	

70	COLOR7	
75	COLOR7 + COLOR8	
80	COLOR8	
85	COLOR8 + COLOR9	
90	COLOR9	
95	COLOR9 + COLOR10	
100	COLOR10	
105	COLOR10 + COLOR11	
110	COLOR11	
115	COLOR11 + COLOR12	
120	COLOR12	
125	COLOR12 + COLOR13	
130	COLOR13	Note: each 5 value a color
135	COLOR13 + WHITE	
140	WHITE	
145-152	COLOR1	
153-160	COLOR2	
161-168	COLOR3	
169-176	COLOR4	
177-184	COLOR5	
185-192	COLOR6	Note: each 7 values a color
193-200	COLOR7	
201-208	COLOR8	
209-216	COLOR9	
217-224	COLOR10	
225-232	COLOR11	
233-240	COLOR12	
241-248	COLOR13	
249-255	WHITE	

**CH9: ZOOM**

BIT	EFFECT	Note
0	0%	
.....	.....	
255	100%	

**CH10: PAN** (X axis from 0-540 degree)

**CH 11: PAN FINE**

**CH12: TILT** (Y axis from 0-235 degree)

**CH 13: TILT FINE**

**CH14: PAN AND TILT SPEED**

BIT	EFFECT	Note
0	FAST SPEED	
...	.....	
...		
255	SLOW SPEED	

**CH15: RESET**

BIT	EFFECT	Note
0-205	UNUSED RANGE	
206-255	COMPLETE RESET	Reset is activated passing through the unused range and staying 5 seconds.

**CH16: LAMP SWITCH**

BIT	EFFECT	Note
0-9	UNUSED RANGE	Lamp switch passing through the unused range and

10-100	LAMP OFF	staying 5 seconds.
101-255	LAMP ON	

## 10、Problems and solutions:

Problems	Solutions
No power	Check the power voltage
Power on with lights, but the product do not accept the control command	Check the digital address setting and the signal cable connection .
The image of projection has halo	Check the electric focusing channel value to see whether is suitable for the current projection distance.
The beam is dim	The bulb service life is ended, need to change new bulbs, check whether the optical components is clean

Note: The other maintenance should be conducted by the professionals.

## 11、2R V2 control board (special instructions)

- Ø During resetting, press the touch screen or ENTER key and hold one for 5 seconds, the resetting will be interrupt.
- Ø Hold down the ENTER key or touch screen , interrupt the resetting and enter the test mode
- Ø Set DMX address as 512, return to the main interface , Press the “512” on the touch screen or press ENTER key and hold on for 5 seconds.
- Ø Gobo wheel, color wheel and prism rotation with shortest path function.

Ø Gobo wheel and color with automatic magnetic error correction function. **Must pay attention to install Hall, When channel value is 0, make sure that can also on the magnetic even used the reset calibration for fine-tuning, gobo and color reset calibration range outside  $\pm 20$ , Zero error correction function will be invalid:** if can make it on the magnetic, then when the user find one light gobo or color plate out of step, push the channel value to 0, the system will automatically reset error correction gobo plate or color plate. You can turn off zero calibration from “gobo and color zero calibration” which is in “Advanced Settings”.

#### Ø Signal Indicator:

- ERR red indicator flashing, means there is an error information, enter into “Information” -> “System error” to view.
- DMX blue indicator on means received DMX signal, off means no DMX signal.
- The blue indicator on the motor driver board, If the rapid flashing at 1 second intervals, means received serial port signals from display; If in the interval of 2 seconds slow flashing, means no serial port signals. The flashing of the indicator, means system is running, if do not flashing, means Motor driver board got problems.

## 12、Maintenance

1. Keep dry.
2. The use of intermittent can effectively prolong the life of the products.
3. In order to obtain good ventilation and lighting effects, should keep the fan, fan nets and lens clean.

4. In order to avoid damage, please do not use organic solvent such as alcohol wipe the shell of lamps and lanterns.

### **13、Statement**

This device performance in good condition and completely packed when delivery. All users should be strictly in accordance with the above stated cautions and instructions, Any damage caused by misuse is not within the warranty of our company.