



## **XR480 BWS**

**PR-2493**

The user manual contains important information about the safe installation and use of a projector. Please read and follow these instructions carefully and keep the manual in a safe place for future reference.

PR LIGHTING LTD.  
<http://www.pr-lighting.com>

## INDEX

1. SAFETY AND WARNINGS.....	3
2. INSTUCTIONS.....	4
3. APPEARANCE.....	5
4. INSTALLATION.....	6
5. SETUP AND CONFIGURATION .....	10
6. OPERATION MENU .....	11
7. DMX PROTOCOL .....	16
8. LOGOS.....	19
9. ERROR MESSAGES .....	19
10. TECHNICAL DATA .....	20
11. CIRCUIT DIAGRAM AND PCB CONNECTIONS.....	25
12. COMPONENT ORDER CODES .....	28

## ACCESSORIES

The following items are supplied with the projector and please check:

Name	Quantity	Unit	Remark
G clamps	2	Pcs	
XLR connector	1	Set	Male and female
Safety cord	1	Pc	
User manual	1	Pc	
Ω clamps	2	Pcs	Optional

Please note that as part of our ongoing commitment to continuous product development, specifications are subject to change without notice. Whilst every care is taken in the preparation of the manual we reserve the right to change specifications in the course of product improvement. The publishers cannot be held responsible for the accuracy of the information herein, or any consequence arising from them.

Every unit is tested completely and packed properly by the manufacturer. Please make sure the packing and / or the unit are in good condition before installation and use. Should there be any damage caused by transportation, consult your dealer and do not use the unit. Any damage caused by improper use will not be assumed by the manufacturer and / or dealer.

**Note:** For the products made by Guangzhou PR lighting Ltd, the warranty for the whole product is one year starting from the delivery date but the light source is not within the warranty.

## 1. SAFETY AND WARNINGS



## NOTE

Before a projector's installation, power-on, operation and maintenance, please carefully read the safety information hereinafter!

The following safety signs are used in the user manual.

Warning	User Manual	Electrical shock	Goggles	Protective Gloves	Flames	High Temperature



•When unpacking , check if there is transportation damage before using the projector. Should there be any damage caused by transportation, consult your dealer and do not use it.

•The manufacture is not responsible for loss caused by the user not following the manual or changing the projector as he/she likes.

•Please be noted that the damage caused by changing the projector at will is not warranted.

•Do not hesitate to contact the dealer or the manufacturer if any questions or advice.



•The projector is for indoor use only, IP20.

•Use only in dry locations. Keep this unit away from rain and moisture, excessive heat, humidity and dust. Do not allow contact with water or any other liquids.

•The projector should be kept away from high temperature, fire, electrical surge, vibration and strong light while being operated.

•The projector is only intended for installation, operation and maintenance by qualified personnel. And the operation must strictly follow the procedures in the manual.

•No repairable parts in the projector and do not open covers for maintenance by yourself.



•Don't look straightly into the light sources especially for epileptics, otherwise eyes will be burned..

•Do not connect this device to any type of dimmer pack.

•After lamp switched on, the minimum distance between the projector and illuminated surface is 10m.

•lens and other optical parts shall be replaced immediately if they have deformed or been damaged, otherwise the light output will be compromised.



•Before operation, please confirm that all covers(housing) are on and screws tightened. It's forbidden to use a projector while covers(housing)are off .

•Keep the lamp clean and do not touch it with bare hands.

•While operating it, wear protective items.



•Any electrical connection must be carried out by a qualified person .

•Before installation, please confirm the voltage supplied matches what is required for the projector.

•Each projector must be properly earthed and installed as per related electrical standards.

•Do not use power cord with its insulator damaged and connect the power cord with other cables.

•If the projector is not used or under cleaning,, please hold the plug and unplug it. Do not unplug it forcefully or by pulling the power cable.

•All power cords must conform to related safety and regulations.

•While being operated, the projector should not be under rains or in humidity.

•Do not switch on and off the projector constantly in very short intervals, otherwise the light source's and other electrical parts' life will be shortened .



•There are safety cord holes at the bottom of the base of a projector. In view of safety, please run the safety

cord supplied through the safety cord holes for safety support.

•Before any installation, maintenance and cleaning work, please ensure the projector is disconnected from power mains.



•After running for 30 minutes, the temperature of the housing of the projector is 45°C. After stable operation, its temperature is 90°C.

•While the lamp is stricken for the first time, there will be smoke and strange smell. It's normal and does not mean the projector has some defects.



•Do not mount the projector directly on inflammable surface.

•Do not project the beam straightly on combustible items and the minimum distance between the projector and illuminated items is 10m.

•A projector should be installed with good ventilation and the minimum distance between the projector and walls is 50cm. At the same time, please ensure the fans and air inlets and outlets are workable.

## 2. INSTRUCTIONS

### •CLEANING AND MAINTENANCE

If a projector can't start. Please check if the fuse is blown up. If it does, replace it with a new fuse with same ratings. And the projector has over-temperature protective device. If the temperature is too high, the protective device will be triggered to shut the projector off. When it happens, please check if the fans run normally or fan shield is blocked by dust. After the issue is solved, restart the projector.

The accumulation of oil, smoke and dust on the lens will compromise the light output. Cleaning a projector is very necessary to ensure a reliable use of it. Cooling fans need to be cleaned every 15 days. Internal lens, reflector and hot mirror need to be cleaned periodically to optimize light output.

Cleaning frequency is to be decided by operations and its environment. Use soft cloth and normal detergent for glass for cleaning work. It's advised external optical system be cleaned every 20 days and internal optical systems every 30/60 days. Keep lens clean and do not touch optical parts with bare hands.



•Before any maintenance and cleaning, please ensure the project is off the power.

•Only qualified person is allowed to do maintenance.

•During maintenance and before maintenance, the projector must be off power.



•To avoid internal damage, sun light or other light mustn't penetrate into the projector via front lens whether it runs or not.

•Do not use alcohol or other organic solvent to clean the housing to avoid damage.

•Do not use any solvent with chemical elements to clean color filters or hot mirror.

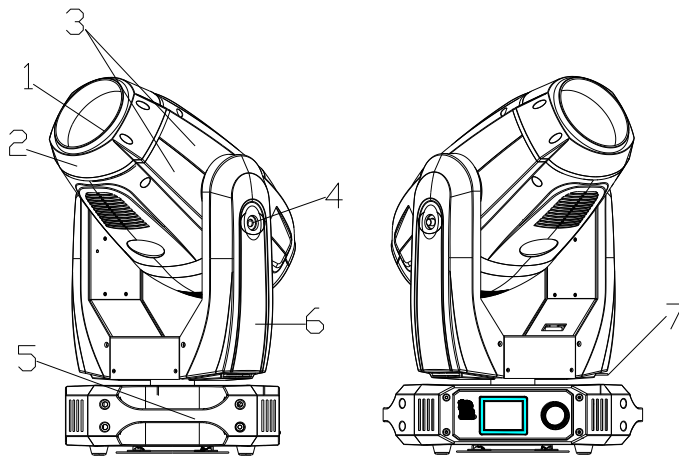
### •LUBRICATION

To ensure smooth movement of gobos and zoom and focus lens, it's advised rotators' bearings and 2 sliding bars for zoom and focus lens be lubricated every 2 months. High quality and high temperature lubricant/grease is advised..

### •TROUBLESHOOTING

PROBLEM	ACTION
The projector doesn't switch on	<ul style="list-style-type: none"><li>➤ Check the fuse on the power socket.</li><li>➤ Check the lamp.</li></ul>
The lamp is on but the projector doesn't respond to the controller	<ul style="list-style-type: none"><li>➤ Make sure that the fixture's start address is right</li><li>➤ Replace or repair the XLR signal cable.</li></ul>
The projector functions intermittently	<ul style="list-style-type: none"><li>➤ Make sure the fan is working well or fans and their shields are not blocked</li></ul>
Beam appears dim, Low in brightness	<ul style="list-style-type: none"><li>➤ Make sure the lamp is within its lifespan</li><li>➤ Remove dust or grease from the lenses.</li></ul>
The project image appears to have a halo	<ul style="list-style-type: none"><li>➤ Carefully clean the lamp, optical lenses and other components.</li></ul>
Heavily Defective Beam	<ul style="list-style-type: none"><li>➤ Check if lens are in good condition(not cracked)</li><li>➤ Clean dust or grease on the lens.</li></ul>

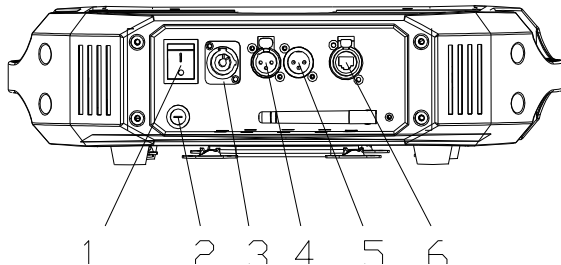
### 3. APPEARANCE



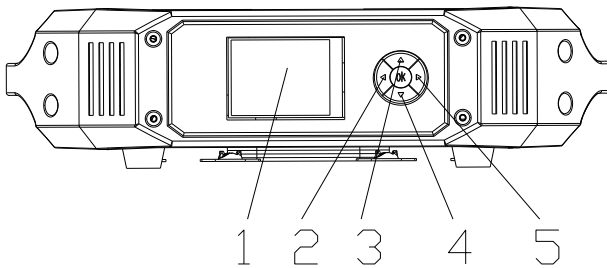
1. Front Lens
2. Lens Cover
3. Head Cover
4. Tilt Lock
5. Handle
6. Arm Cover
7. Pan Lock

While transportation, the head should be locked-Tilt Lock(4) and Pan Lock(6) should be at locking positions. Before the use of the projector, unlock both.

#### Rear Panel of the Base



1. Power Switch
2. Fuse Holder
3. Power Socket
4. 5-Pin XLR Socket(Male)
5. 5-Pin XLR Socket(Female)
6. ArtNet

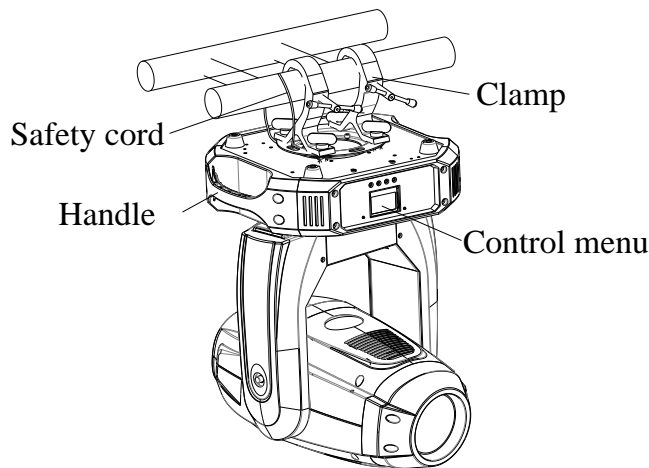



1. Touch Screen
2. Escape/Left Key
3. Up Key
4. Down Key
5. Right Key

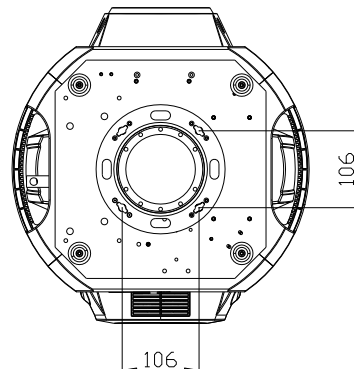
### 4. INSTALLATION

#### •RIGGING

Before moving a projector, Please lock Pan and Tilt. Before its operation, please unlock them. It's forbidden to run a projector with power while it is locked.



 **Warning**  
please run the safety cord  
through the two holes for safety



Take 2 clamps and the safety cord out from the package and mount 2 clamps on the underside of fixture with 2 retainers attached to each clamp. Hang the fixture on the structure and fasten the screws attached to each clamp. (See the **WARNING** on the underside of the base as shown above) **To pass the SAFETY CORD through the HOLES for safety!** Always ensure that the projector is firmly anchored to avoid vibration and slipping whilst functioning. Always ensure that the structure that you are going to mount the projector to is secure and strong enough to support the weight of a XR 1000 Framing.



**WARNING:**

- The projector **MUST** be lifted or carried by the **HANDLES** instead of clamps.
- For safety the safety cord should afford 10 times the Projector's weight.

• **POWER CONNECTION**

Connect the power cord as follows:

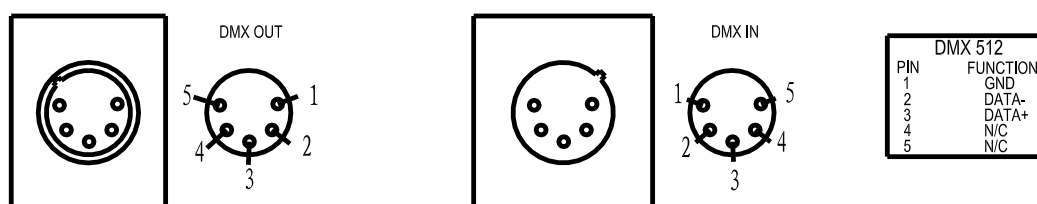
- L (live) =brown
- E (earth) =yellow/green
- N (neutral) =blue

Before power connection, please ensure the power supplied must match what the nameplate says. It is recommended that each projector be connected with power separately so that they may be individually switched on and off.



- The earth wire(yellow/green) must be connected to the ground. And electrical connection must be in accordance with the standards concerned.
- If any questions about the electrical installation, do not continue but consult a qualified electrician.

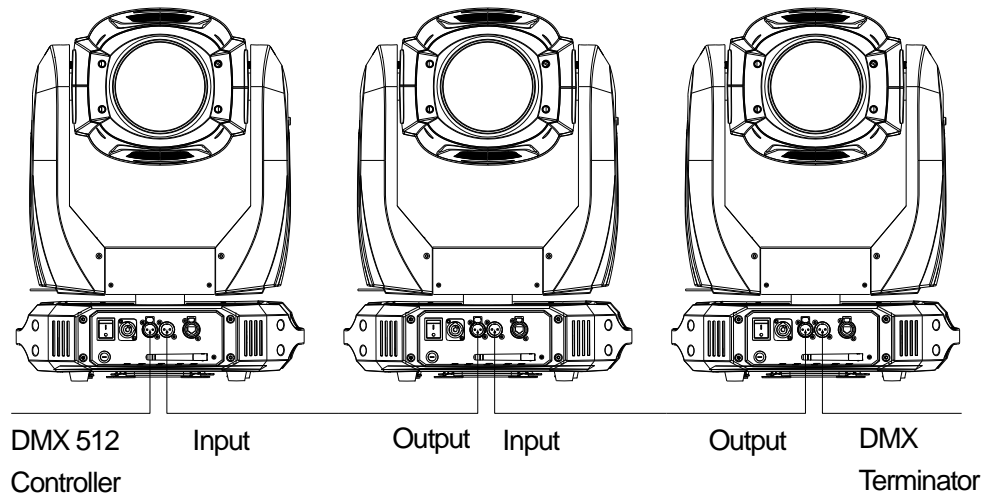
•**DMX CONTROL CONNECTION:**



Connection between controller and projector and between one projector and another must be made with a twin-screened cable, with each wire having at least a 0.5mm in diameter. Connection to and from the projector is via cannon 5 pin (which are included with the projector) or 5 pin XLR plugs and sockets. The XLR's are connected as shown in the figure above.

Note: care should be taken to ensure that none of the pins touch the metallic body of the plug or each other. XLR plugs and sockets mustn't be connected in any way other than mentioned in the above figure. The XR330BWS accepts digital control signals in protocol DMX512 (1990).

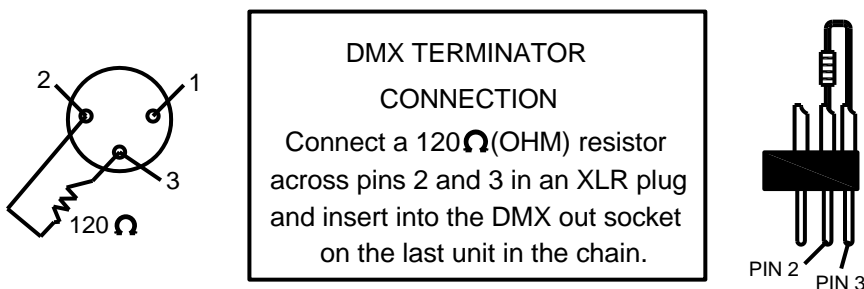
Connect the controller's DMX output to the first fixture's DMX input, and connect the first fixture's DMX output to the second fixture's DMX input and connect the rest fixtures in the same way. Eventually connect the last fixture's DMX output to a DMX terminator as shown in the figure below.



#### •DMX TERMINATOR

In the Controller mode, at the last fixture in the chain, the DMX output has to be connected with a DMX terminator. This prevents electrical noise from disturbing and corrupting the DMX control signals.

The DMX terminator is simply an XLR connector with a 120Ω (ohm) resistor connected across pins 2 and 3, which is then plugged into the output socket on the last projector in the chain. The connections are illustrated below.



#### •ALIGNMENT/INSTALLATION/REPLACEMENT OF A LAMP

Lock the yoke before fitting/replacing the lamp. Just as Shown by Figure 1, after Opening the cover at the rear of the projector by loosening 8 fastfit screws, you can open the head. To adjust the lamp as per Figure 2. Take out the lamp as per the figure 3.

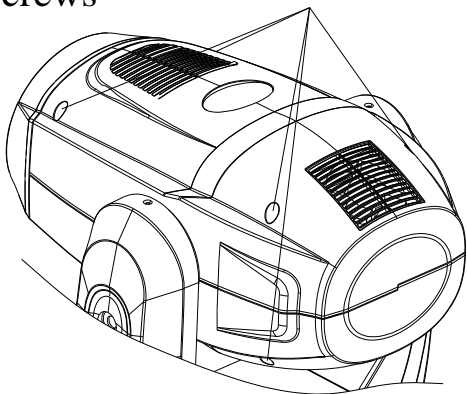
Before lamp installation, tighten its power wires well. Lamp in and out are opposite orders



- Don't touch the internal surface of the reflector and the burner of the lamp with bare hands so as not to impair the beam output. While lamp's installation, do not damage the metal wire around the burner.
- Please read "Instructions " enclosed with the lamp
- Do operate the projector while adjusting the lamp

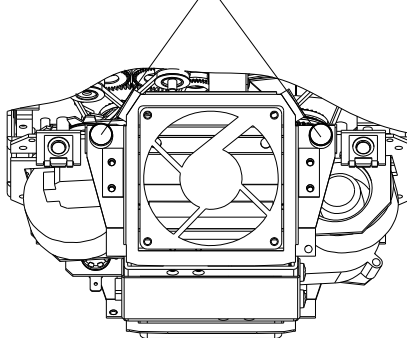


**Figure1:Loosen 8pcs of fastfit screws**

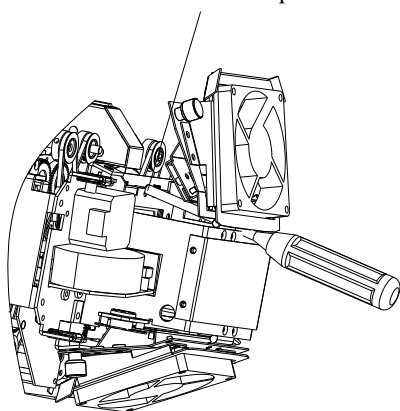


**Figure2: Lamp adjustment**

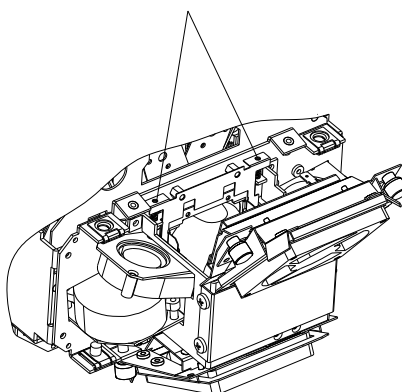
1. Loosen 4 screws at the fan's two sides



2. Loosen a tightening screw by a cross screw driver at the lamp's side



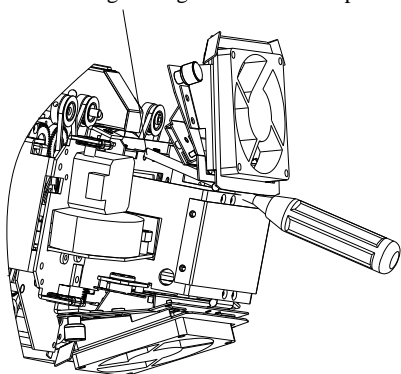
3. To adjust the two screws by a cross screw driver to change the lamp's position



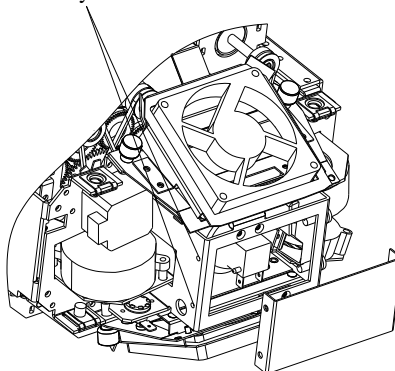
4. After the lamp is aligned well, use cross screwdriver to tighten the tightening screws at one side of the lamp to avoid it being loosened based on procedure 2

**Figure3: Removal of lamp**

1.Loosen a tightening screw at the lamp's side

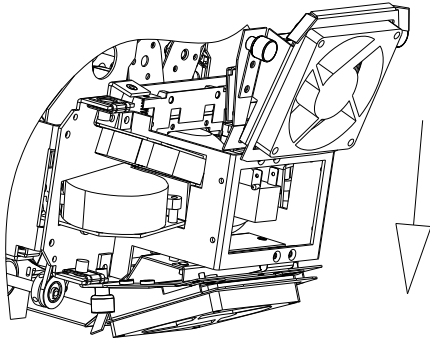


2.Remove the cover after its 4 screws are loosened by a cross screwdriver





2. Remove the lamp's two wires and push it obliquely for the removal.



4. Connect the lamp wires after a new lamp is in place, and align and tighten the lamp as per figure2

## •GOBO REPLACEMENT

### Gobo replacement

1. As shown in figure1, disconnect a projector from power. Unfasten the 4 fastfit screws of the cover to remove the cover, and unfasten the 2 screws of the fan assembly and remove the assembly.
2. Pull out the rotator from the rotating gobo wheel forcefully by fingers as shown in figure2. After replacing the gobo or the rotator, put the rotator back to the holder.

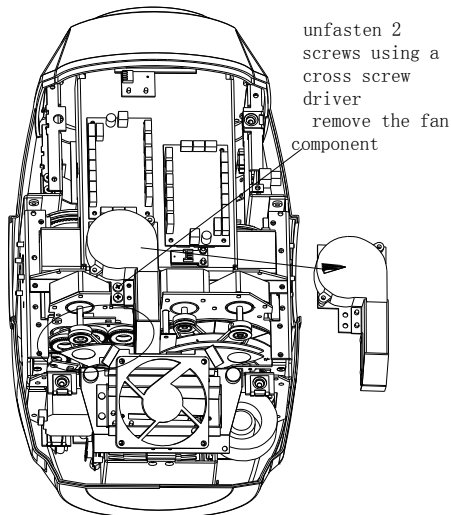


Figure 1

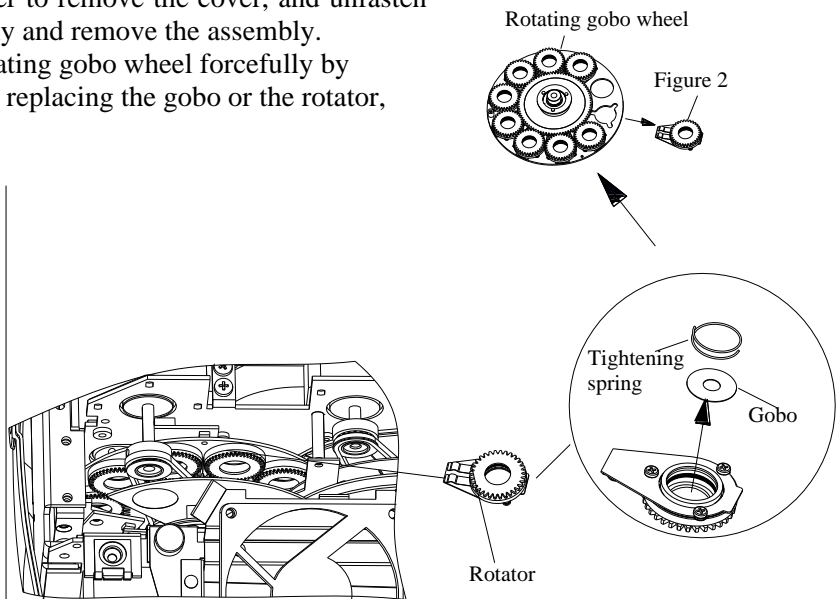


Figure 2

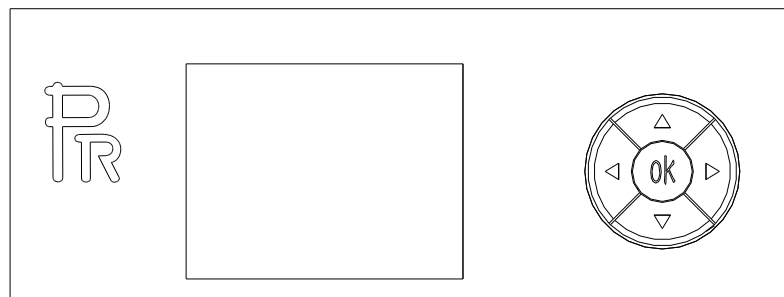


## DANGER!


Before replacement of gobos, the projector must be off the power.











## 5. SETUP AND CONFIGURATION



### •FRONT PANEL OPERATION



The projector configuration can be set conveniently via push buttons and color touch screen.



To browse through or change the projector's settings, touch the white area of the touch screen or press OK button for more than 3s(Only powered by the battery, pressing the OK button) to unlock the screen, then press  key to enter the projector's function menus. Each main menu has its sub-menus. And each menu stands for special function. For the details, please see the following 6<sup>th</sup> point "Operation Menu":

1. At the page to set the fixture's functions, press , , ,  keys or their respective icons to select the functions desired.
2. While at 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> level of menus, the  key is for ESCAPE, but  key won't work, and  key is used for ENTER. Press  key to save the changes or enter into the sub menus. Press  or  keys to change the numbers(minus or plus). Or touch the option needed for change.

Shortcut keys: After the Function Menu is entered into, there are all options for the functions on the top of the screen. On the right there are 4 shortcut keys like ,  Lamp Control and English/Chinese.

## •DMX START ADDRESS

Each projector must be given a DMX start address so that the correct projector responds to the correct control signals. This DMX start address is the channel number from which the projector starts to "listen" to the digital control information being sent out from the controller. The projector has 3DMX modes. There are standard mode, short mode and extended mode. For example standard mode has 28 channels, so set the No. 1 projector's address 001, No. 2 projector's address 029, No. 3 projector's address 057, No. 4 projector's address 085, and so on.

Switch on the Projector. Press  key more than 3 seconds to unlock panel, then press  key to enter into the fixture's operation menus.

Select DMX Address icon and press OK key or touch the icon directly on the display and select DMX address at the 2<sup>nd</sup> level menu for the address setting.

Press  or  keys or touch < > displayed for the DMX address desired.



Press OK key to confirm.

Press the  key to go back to the upper level menu.

## •DMX WIRELESS CONTROL

The projector has wireless control function with wireless receiver module and antenna for remote control.

The setup of it is below:

1. Press  for more than 3s to unlock the control panel, then press  key to enter into the operation menu and select "Config Settings".
2. Select "Wireless First" or "Wireless Only" from the menu of "Signal Select".

Only after the projector is linked with a transmitter, can it receive wireless signal sent by the transmitter. If unlinking it, Press "Enter" for the menu of Un-link Wireless under the upper level menu of Config Settings, then the fixture is unlinked with the wireless transmitter.

## •STAND-ALONE MODE

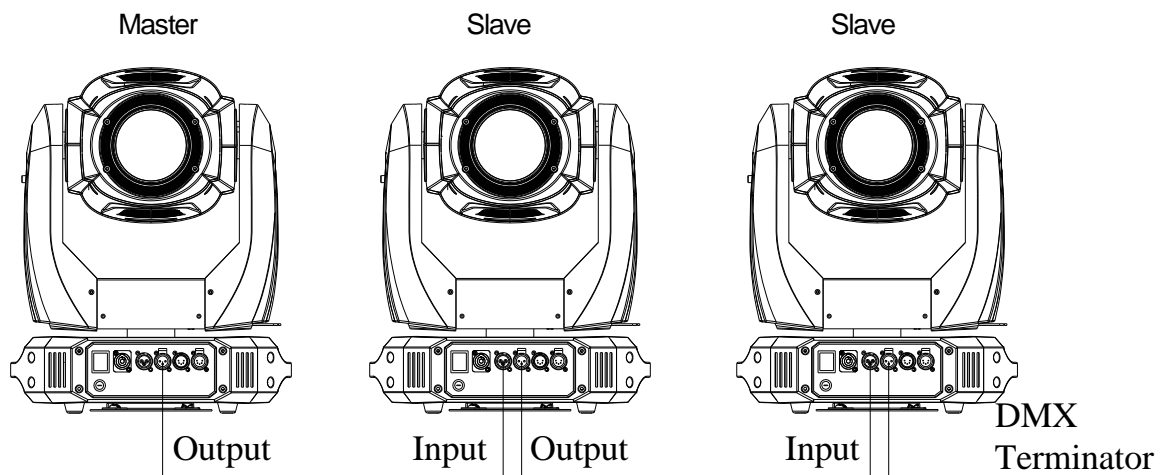
Operate the projector without connecting with a controller, enable the master mode through the operation panel, the projector will run in Stand-Alone mode automatically.  
DMX address can be set at any number within 512.

## •MASTER/SLAVE MODE




Many projectors can run synchronously in the Master/Slave mode by linking them with each other. First, connect the first fixture's DMX output to the second fixture's DMX input using XLR-XLR control cable and then connect the second fixture's DMX output to the third fixture's DMX input, and so on until all projector are connected in this way. Eventually connect the last fixture's DMX output to a DMX terminator. Set 1<sup>st</sup> projector as the master and others are Slaves.

Start Addresses of all Slaves are 001; Operation mode of the Master can be set any mode for a Master' and Slaves' operation mode can be set accordingly.



After Powered on, the group will run in Master/Slave Mode






## 6. OPERATION MENU

1st LEVEL	2nd LEVEL	3rd LEVEL	4th LEVEL	5th LEVEL
Address 	DMX Address	1-488 (Short Mode) 1-484 (Standard Mode) 1-479 (Extended Mode)		
	IP 地址 IP Address	Default IP Address Custom IP Address	2.X.XX/10.X.XX X.X.XX	
	SubNet Mask	X.X.XX		
	ArtNet Universe	0-255		
Reset 	Total Reset	Really Reset? Confirm or Cancel		
	Pan&Tilt Reset	Really Reset? Confirm or Cancel		
	Colour System Reset	Really Reset? Confirm or Cancel		
	Gobo Reset	Really Reset? Confirm or Cancel		
	Dimmer/Shutter reset	Really Reset? Confirm or Cancel		
	Zo. Fo. Fr. Pr. Reset	Really Reset? Confirm or Cancel		
Config Settings 	DMX Channel Mode	Short Mode 24CH		
		Standard Mode 28CH		
		Extended Mode 33CH		
		View Selected Mode	Ch.01 Strobe Ch.02 Dimmer ... Ch.XX Power/Special Fun.	

	Lamp Control	Lamp Control	OFF/ ON	
		On By Power On	OFF/ ON	
		Control By DMX	OFF/ ON	
		Lamp ECO Power	OFF/ ON	
	Signal Select	XLR Only		
		XLR First		
		Wireless Only		
		Wireless First		
		Wireless In/XLR Out		
		ArtNet Only		
		ArtNet In/XLR Out		
	Loss of DMX	Normal time out		
		Hold Last Value		
	Display Config	Display Mode	Off After Delay	
			On Always	
		Display Invert	Invert OFF	
			Invert ON	
			Invert Auto	
		Language Setting	English\Chinese	
		Touch Calibration		
	Temperature Unit	Celsius Degree		
		Fahrenheit Degree		
	Un-Link Wireless	Really Un-Link? Confirm or Cancel		
	Defaults	Restore Defaults? Confirm or Cancel		
Option Settings	Pan/Tilt Settings	Pan DMX Invert	OFF/ ON	

		Tilt DMX Invert	OFF/ ON	
		Pan Tilt Swap	OFF/ ON	
		XY Feedback	OFF/ ON	
		Pan/Tilt mode	Speed/Time	
	Invert Settings	Dimmer Invert	OFF/ ON	
		Zoom Invert	OFF/ ON	
		CYM Invert	OFF/ ON	
	Defaults	Restore Defaults? Confirm or Cancel		
	Information 	Channel Value Strobe XXX Dimmer XXX Dimmer Fine XXX CYM Macro XXX Cyan XXX Yellow XXX Magenta XXX Color Wheel XXX Color Wheel Fine XXX Fixed Gobo Wheel XXX Rot. Gobo Wheel1 XXX Rot. Gobo1 Rotation XXX Rot. Gobo1 Rotation F. XXX Prism1 XXX Prism1 Rotation XXX Prism2 XXX Prism2 Rotation XXX Frost XXX Effect Wheel XXX Focus XXX Zoom XXX Diffuser XXX Pan XXX Pan Fine XXX Tilt XXX Tilt Fine XXX Pan/Tilt Speed & Time XXX Power/Special Fun. XXX		
		Lamp Hours	XXX H Reset Lamp Hours	
		Total Hours	× × × × H	
		Temperature	Display Board=× × × C/F Pan & Tilt board=× × × C/F Driver Board1=× × × C/F Driver Board 2=× × × C/F Driver Board 3=× × × C/F Head Sensor=× × × C/F	
		Software Version	PCB Sys Boot Display Board xxx xxx Pan & Tilt board xxx xxx Driver Board1 xxx xxx Driver Board 2 xxx xxx Driver Board 3 xxx xxx	

	Electronic SN	XXXXXX		
	RDM Device Label	XR 440 B BWS ANSI E1.20 RDM		
	Acceleration Sensor	X Axis: XXX Y Axis: XXX Z Axis: XXX		
	Fan Status	Fan Speed Status Lamp Fan xxx on/off Lamp Fan2 xxx on/off Head Fan xxx on/off Head Fan2 xxx on/off Ceramic Fan xxx on/off Basic Fan xxx on/off CYM Fan xxx on/off		
<div>Service</div> 	Manual Effect Control	Strobe XXX Dimmer XXX Dimmer Fine XXX CYM Macro XXX Cyan XXX Cyan Fine XXX Yellow XXX Yellow Fine XXX Magenta XXX Magenta Fine XXX Color Wheel XXX Color Wheel Fine XXX Fixed Gobo Wheel XXX Rot. Gobo Wheel 1 XXX Rot. Gobo1Rotation XXX Rot. Gobo1Rotation F. XXX Prism 1 XXX Prism 1 Rotation XXX Prism 2 XXX Prism 2 Rotation XXX Frost XXX Effect Wheel XXX Focus XXX Focus Fine XXX Zoom XXX Zoom Fine XXX Diffuser XXX Pan XXX Pan Fine XXX Tilt XXX Tilt Fine XXX Pan & Tilt Speed &Time XXX		
	Factory Mode	XXX		
<div>Operation Mode</div> 	DMX Mode	Change Operation Mode? Confirm or Cancel		
	Master Mode	Preset Memory	Change Operation Mode? Confirm or Cancel	
		User Memory 1	Change Operation Mode? Confirm or Cancel	
		User Memory 2	Change Operation Mode? Confirm or Cancel	
	Stand-Alone Mode	Preset Memory	Change Operation Mode? Confirm or Cancel	
		User Memory 1	Change Operation Mode? Confirm or Cancel	

		User Memory 2	Change Operation Mode? Confirm or Cancel	
	Static Scene	Change Operation Mode? Confirm or Cancel		
User Memories 	Edit User Memory	Edit User Memory 1 / Edit User Memory 2	(1~200Scenes) Scene XX (1~200 Scenes)	Strobe XXX Dimmer XXX Dimmer Fine XXX CYM Macro XXX Cyan XXX Cyan Fine XXX Yellow XXX Yellow Fine XXX Magenta XXX Magenta Fine XXX Color Wheel XXX Color Wheel Fine XXX Fixed Gobo Wheel XXX Rot. Gobo Wheel 1 XXX Rot. Gobo1Rotation XXX Rot. Gobo1Rotation F. XXX Prism 1 XXX Prism 1 Rotation XXX Prism 2 XXX Prism 2 Rotation XXX Frost XXX Effect Wheel XXX Focus XXX Focus Fine XXX Zoom XXX Zoom Fine XXX Diffuser XXX Pan XXX Pan Fine XXX Tilt XXX Tilt Fine XXX Pan & Tilt Speed &Time XXX Power/ Special Fun. XXX Delay Time XXX Delay Unit XXX Link to Step XXX
		Edit Static Scene	Paste ? Confirm/Cancel	Strobe XXX Dimmer XXX Dimmer Fine XXX CYM Macro XXX Cyan XXX Cyan Fine XXX Yellow XXX Yellow Fine XXX Magenta XXX Magenta Fine XXX Color Wheel XXX Color Wheel Fine XXX Fixed Gobo Wheel XXX Rot. Gobo Wheel 1 XXX Rot. Gobo1Rotation XXX Rot. Gobo1Rotation F. XXX Prism 1 XXX Prism 1 Rotation XXX Prism 2 XXX Prism 2 Rotation XXX Frost XXX Effect Wheel XXX Focus XXX Focus Fine XXX Zoom XXX Zoom Fine XXX Diffuser XXX Pan XXX Pan Fine XXX



				Tile           XXX Tilt Fine     XXX Pan & Tilt Speed & Time XXX Power/ Special Fun. XXX
	Init User Memory	Reset User Memory 1	Reset User Memory? Confirm /Cancel	XXX
		Reset User Memory 2		
		Reset Static Scene		

## 7. DMX PROTOCOL

Short mode	Standard mode	Extended Mode	FUNCTION	DMX	DESCRIPTION
1	1	1	Strobe	000-010	Close
				011-025	Open
				026-225	Strobe speed from slow to fast
				226-246	Macros from slow to fast
				247-255	Open
2	2	2	Dimmer	000-035	Close
				036-255	Linear dimming (0-100%)
	3	3	Dimmer Fine	000-255	Dimmer in 16 bit
3	4	4	CYM Macro	000-016	White
				017-035	Yellow+ Magenta=Red
				036-054	Yellow
				055-073	Yellow +Cyan=Green
				074-092	Cyan
				093-111	Cyan + Magenta= Violet
				112-130	Magenta
				131-255	CYM color mixing from slow to fast
4	5	5	Cyan	000-255	Cyan (linear 0~100%)
		6	Cyan Fine	000-255	Cyan in 16 Bit
5	6	7	Yellow	000-255	Yellow (linear 0~100%)
		8	Yellow Fine	000-255	Yellow in 16 Bit
6	7	9	Magenta	000-255	Magenta (linear 0~100%)
		10	Magenta Fine	000-255	Magenta in 16 Bit
7	8	11	Color Wheel	000-064	Indexing(0-360degrees)
				065-069	Deep Red
				070-074	Deep blue
				075-079	Yellow
				080-084	Green
				085-089	Plum
				090-094	Sky Blue
				095-099	Red
				100-104	Deep Green
				105-109	Deep Yellow

				110-114	Blue
				115-119	Orange
				120-124	CTO
				125-127	UV
				128-191	Rotation ,Clockwise from slow to fast
				192-255	Rotation, Anti-clockwise from slow to fast
8	9	12	Color Wheel Fine	0-255	Color Wheel in 16 Bit
9	10	13	Fixed Gobo Wheel	0-19	White
				20-31	Gobo1
				32-43	Gobo2
				44-55	Gobo3
				56-67	Gobo4
				68-79	Gobo5
				80-91	Gobo6
				92-103	Gobo7
				104-115	Gobo8
				116-127	Gobo9
				128-146	Clockwise rotation from slow to fast
				147-165	Anti Clockwise rotation from slow to fast
				166-175	Shake effect 1 from slow to fast
				176-185	Shake effect 2 from slow to fast
				186-195	Shake effect 3 from slow to fast
				196-205	Shake effect 4 from slow to fast
				206-215	Shake effect 5 from slow to fast
				216-225	Shake effect 6 from slow to fast
				226-235	Shake effect 7 from slow to fast
				236-245	Shake effect 8 from slow to fast
				246-255	Shake effect 9 from slow to fast
10	11	14	Rotating Gobo Wheel I	000-012	White
				013-025	Gobo 1/ Big Hole(Gobo Mode or very bright mode)
				026-038	Gobo 2
				039-051	Gobo 3
				052-064	Gobo 4
				065-077	Gobo 5
				078-090	Gobo 6
				091-103	Gobo 7
				104-116	Gobo 8
				117-127	Gobo 9
				128-155	Rotation (clockwise From slow to Fast)
				156-183	Reverse Rotation (anti-clockwise From slow to Fast)
				184-191	Shake of Gobo 1 from slow to fast
				192-199	Shake of Gobo 2 from slow to fast
				200-207	Shake of Gobo 3 from slow to fast

				208-215	Shake of Gobo 4 from slow to fast
				216-223	Shake of Gobo 5 from slow to fast
				224-231	Shake of Gobo 6 from slow to fast
				232-239	Shake of Gobo 7 from slow to fast
				240-247	Shake of Gobo 8 from slow to fast
				248-255	Shake of Gobo 9 from slow to fast
				0-12	Shake of Gobo 10 from slow to fast
11	12	15	Gobo Rotation	000-128	Gobo Indexing(0~540degrees)
				129-188	Rotation (Clockwise From slow to Fast)
				189-195	Stop
				196-255	Rotation (Anti-Clockwise From slow to Fast)
	13	16	Gobo Rotation Fine	000-255	Gobo Rotation in 16 Bit
12	14	17	Prism 1	000-016	Open
				017-127	Prism1
13	15	18	Prism1 Rotation	000-128	Prism Indexing
				129-191	Rotation(Clockwise from slow to fast)
				192	Stop
				193-255	Rotation(Anti- Clockwise from slow to fast)
14	16	19	Prism 2	000-016	White
				017-255	Prism2
15	17	20	Prism2 Rotation	000-128	Prism2 Indexing
				129-191	Rotation(Clockwise from slow to fast)
				192	Stop
				193-255	Rotation(Anti- Clockwise from slow to fast)
16	18	21	Frost	0-255	Linear Frost
17	19	22	Effect Wheel	000-010	No
				011-020	Effect Wheel In
				21-255	Effect Wheel rotation from slow to fast
18	20	23	Focus	000-255	Linear Focus
		24	Focus Fine	000-255	Focus in 16 bit precision
19	21	25	Zoom	000-255	Linear Zoom
		26	Zoom Fine	000-255	Zoom in 16 bit precision
20	22	27	Diffuser	000-016	Open
				17-255	Linear Diffuser
21	23	28	Pan	000-255	Pan(0°~540°)
	24	29	Pan Fine	000-255	Pan in 16 bit
22	25	30	Tilt	000-255	Tilt(0°~270°)
	26	31	Tilt Fine	000-255	Tilt in 16 bit
23	27	32	Pan & Tilt Speeds	000-255	Pan & Tilt Speed from Fast to Slow
24	28	33	Control	000-019	Reserved
				020-024	Display On
				025-029	Display Off












			030-034	Reserved
			035-039	Lamp ECO Power
			040-044	Lamp Full Power
			045-089	Reserved
			090-094	Pan & Tilt Speed Mode
			095-099	Pan & Tilt Time Mode
			100-129	Reserved
			130-139	Lamp On
			140-149	Pan & Tilt Reset
			150-159	Color System Reset
			160-169	Gobo Wheel Reset
			170-179	Dimmer/Shutter Reset
			180-189	Zoom/Frost/Focus/Prism Reset
			190-199	Reserved
			200-209	Total Reset
			210-229	Reserved
			230-239	Lamp Off
			240-255	Reserved

1. The projector can't be turned on within 1 minute after the lamp-off.



2. Fan error can cause lamp-off.

3. "Speed Mode" means Pan and Tilt will move from Point A to Point B at their respective maximum speeds. "Time Mode" means both Pan and Tilt will arrive at designated point at the same time. It's advised Time Mode be used if the projector runs circles or in oblique lines.

## 8. Logos

	Lamp Control		Option Settings
	Chinese/English		Information
	Error Messages		Service
	Address		Operation Mode
	Reset		User Memories
	Config Settings		

## 9. Error messages

The system can detect some errors during the reset, if  displayed, touch  to view the error.

The error messages are as follows:

Name	Type	Correction
------	------	------------

Pan	Timeout/magnet Sensor/Encoder	Check if wiring, positioning parts and motors are normal
Tilt	Timeout/magnet Sensor/Encoder	Check if wiring, positioning parts and motors are normal
Cyan	Timeout	Check if wiring, positioning parts and motors are normal
Yellow	Timeout	Check if wiring, positioning parts and motors are normal
Magenta	Timeout	Check if wiring, positioning parts and motors are normal
CT	Timeout	Check if wiring, positioning parts and motors are normal
Color Wheel	Timeout	Check if wiring, positioning parts and motors are normal
Fixed gobo wheel	Timeout	Check if wiring, positioning parts and motors are normal
Rot. Gobo Wheel 1	Timeout	Check if wiring, positioning parts and motors are normal
Rot. Gobo1Rotation	Timeout	Check if wiring, positioning parts and motors are normal
Dimmer	Timeout	Check if wiring, positioning parts and motors are normal
Prism 1	Timeout	Check if wiring, positioning parts and motors are normal
Prism 1 Rotation	Timeout	Check if wiring, positioning parts and motors are normal
Prism 2	Timeout	Check if wiring, positioning parts and motors are normal
Prism 2 Rotation	Timeout	Check if wiring, positioning parts and motors are normal
Focus	Timeout	Check if wiring, positioning parts and motors are normal
Zoom	Timeout	Check if wiring, positioning parts and motors are normal
Ceramic Fan	Error	Check if fan and its wiring are normal
CMY Fan	Error	Check if fan and its wiring are normal
Head Fan	Error	Check if fan and its wiring are normal
Head Fan 2	Error	Check if fan and its wiring are normal
Basic Fan	Error	Check if fan and its wiring are normal
Pan and Tilt Board	Error	Check signal wire
Driver Board 1	Error	Check signal wire
Driver Board2	Error	Check signal wire
Driver Board 3	Error	Check signal wire
Acceleration Sensor	Error	Check signal wire
Lamp on	Timeout	Check if the lamp is damaged
Lamp Life	Timeout Warning	
Lamp Off[Fan Error]	Error	Check if all fans are normal
Lapsed Time	Timeout	
Time IC	Error	
Lapsed time	X days	
Use hours Setting	successfully	

## 10. TECHNICAL DATA

### ELECTRICAL PARAMETER

Input Voltages : 100V~240V AC, 50/60Hz

Rated Power :690W @ 100V

650W @ 220V

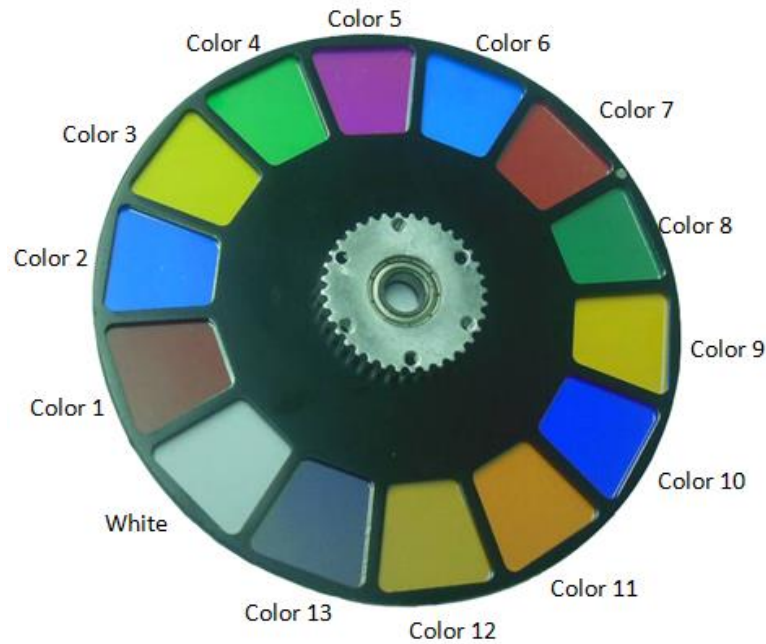
Power Factor: PF >0.9

## LAMP SPECIFICATIONS:

Lamp	SIRIUS HRI 470W S
Color Temperature	7800 +/300K
Manufacturers Rated Lamp Life	1500hours

## COLORS

1 Color wheel: 13colors(plus 1CTO)+ Open, rainbow effect with bi-directional and variable speeds, Stepping/linear color changing



No.	Code No.	Colors	Wave Length
1	090071050	Deep Red	$\lambda=628\pm5\text{nm}$
2	090071053	Deep Blue	$\lambda=503\pm5\text{nm}$
3	090071052	Yellow	$\lambda=531\pm5\text{nm}$
4	090071055	Green	$\lambda=496/557\pm5$
5	090071058	Plum	$\lambda=452/613\pm5$
6	090071054	Sky Blue	$\lambda=533\pm5\text{nm}$
7	090071049	Red	$\lambda=619\pm5\text{nm}$
8	090071056	Deep Green	$\lambda=508/537\pm5$
9	090071051	Deep Yellow	$\lambda=554\pm5$
10	090071059	Blue	$\lambda=472\pm5\text{nm}$
11	090071057	Orange	$\lambda=579\pm5\text{nm}$
12	090071061	CTO	$\lambda=556\pm5\text{nm}$
13	090071060	UV	$\lambda=436\pm5\text{nm}$












## CMY COLOR MIXING SYSTEM

CMY linear color mixing with macros

## FIXED GOBO WHEEL

1 Fixed gobo wheel: 10 gobos +open+ animation effect

Bi-directionally rotatable, and shakable at variable speeds, 2channels to control gobos and shift between animation effects.

						
Gobo1	Gobo 2	Gobo 3	Gobo 4	Gobo 5	Gobo 6	Gobo 7
						
Gobo 8	Gobo 9	Gobo 10	Gobo 11			

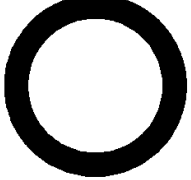






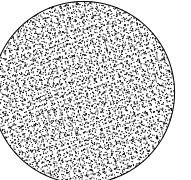


## ROTATING GOBO WHEEL

1 Rotating gobo wheel:

9Interchangeable Gobos +Open

Bi-directionally rotatable, and shakable at variable speeds

Gobo Replaceable, Gobo diameter:  $\Phi 15.9\text{mm}$  ,Gobo image diameter:  $\Phi 12.5\text{mm}$ , 1.1mm thick

	P/N: 120150004	P/N: 120150007	P/N: 120150003	P/N: 120150004
				
Gobo 1	Gobo 2	Gobo 3	Gobo 4	Gobo 5
P/N: 120150001	P/N: 120150006	P/N: 080090121	P/N: 120150002	P/N: 120150008
				
Gobo 6	Gobo 7	Gobo 8	Gobo 9	Gobo 10

## PRISM:

2Pcs,(STD 8-facet and 16 facet Prisms) Bi-directional rotation with variable speeds(options: 3-facet/ 16-facet liner prism or gradient prism)

## INDEPENDENT DIFFUSER:

1Pcs of independent diffuser

Optional even beam mode

## FROST FILTER:

1Pc frost filter



**FOCUS:**

DMX linear Focus

**ZOOM:**

DMX linear Zoom

**DIMMER/STROBE:**

0-100% Linearly adjustable/ Double shutter blades, 0.3~25 F.P.S

**HEAD MOVEMENT:**

Pan 540 °; Tilt 270 °with auto position correction

**BEAM ANGLE:**

Beam Mode: 2.3 °-- 10 °, Linear Adjustment

Spot Mode: 5 °-- 40 ° Linear Adjustment

Wash Mode: 5 °-- 50 ° Linear Adjustment

**CONTROL:**

DMX512, 3 pin and 5 pin interfaces

24channels in short mode, 28channels in standard mode , 33channels in extended mode

Self-test mode

**OTHER FUNCTIONS:**

Adjustable Pan & Tilt speeds

Lamp's and fixture's hours displayed

Modular Structure for easy maintenance

DMX512 wireless receiver

Optional DMX512 Wireless Transmitter

**HOUSING:**

High temperature ABS, IP20

**NET WEIGHT:** 22.2Kg

**WEIGHT:**

Net Weight: 22.2Kg

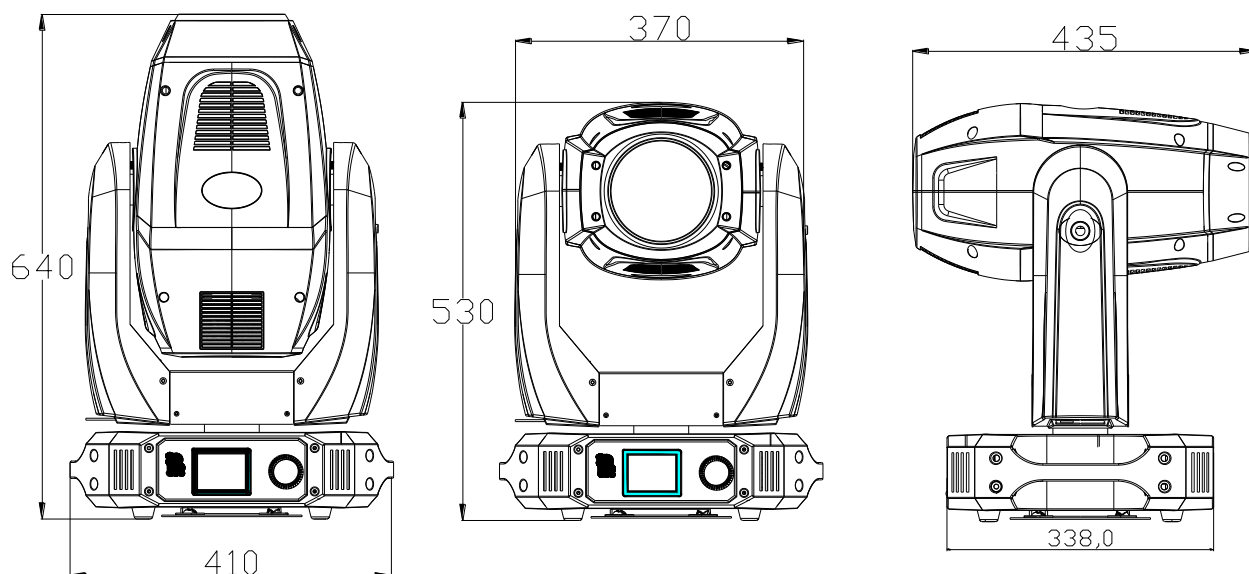
Gross Weight: 79Kg in flight case(2pcs/case) and accessories

Net Weight: 26.5Kg in carton(1pc/ctn) and accessories

**OPERATION TEMPERATURE:**

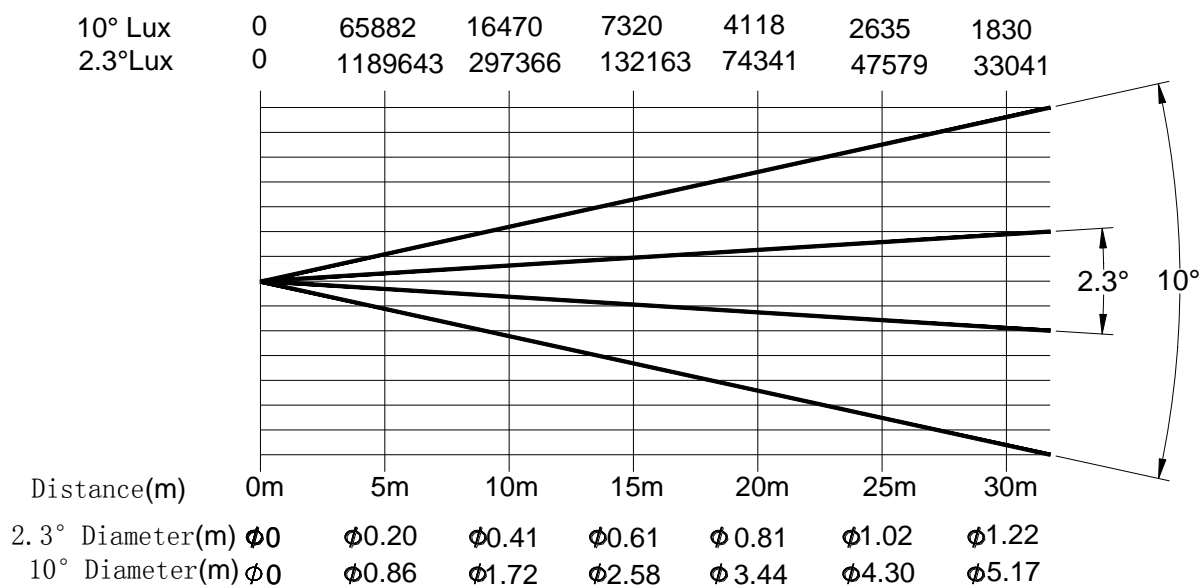
Maximum ambient temperature: 40 °C

**SIZES:**

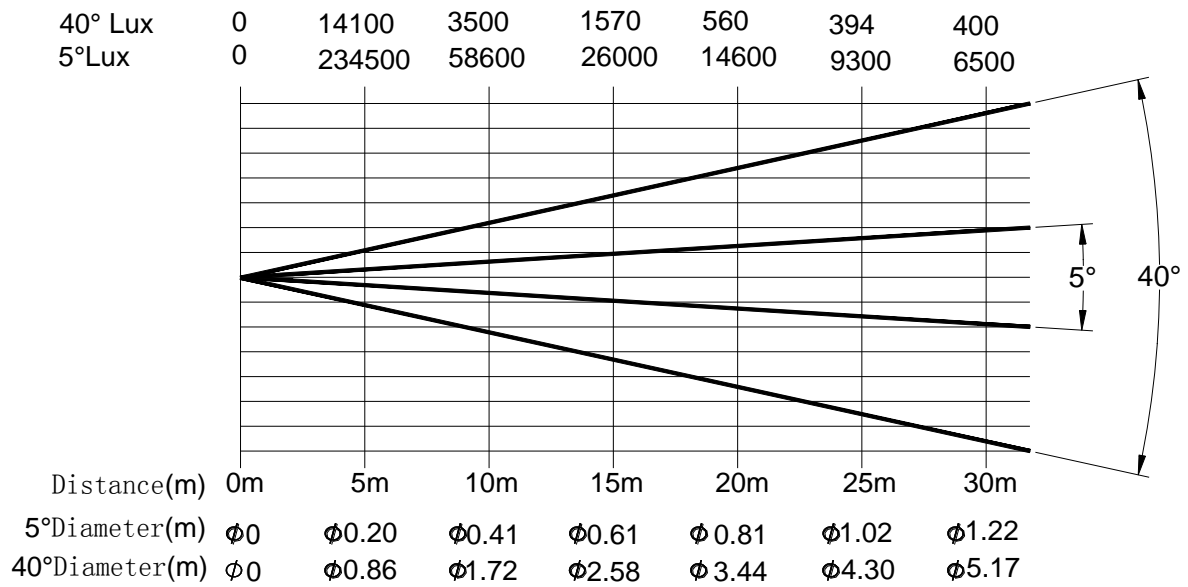


## LIGHT OUTPUT:

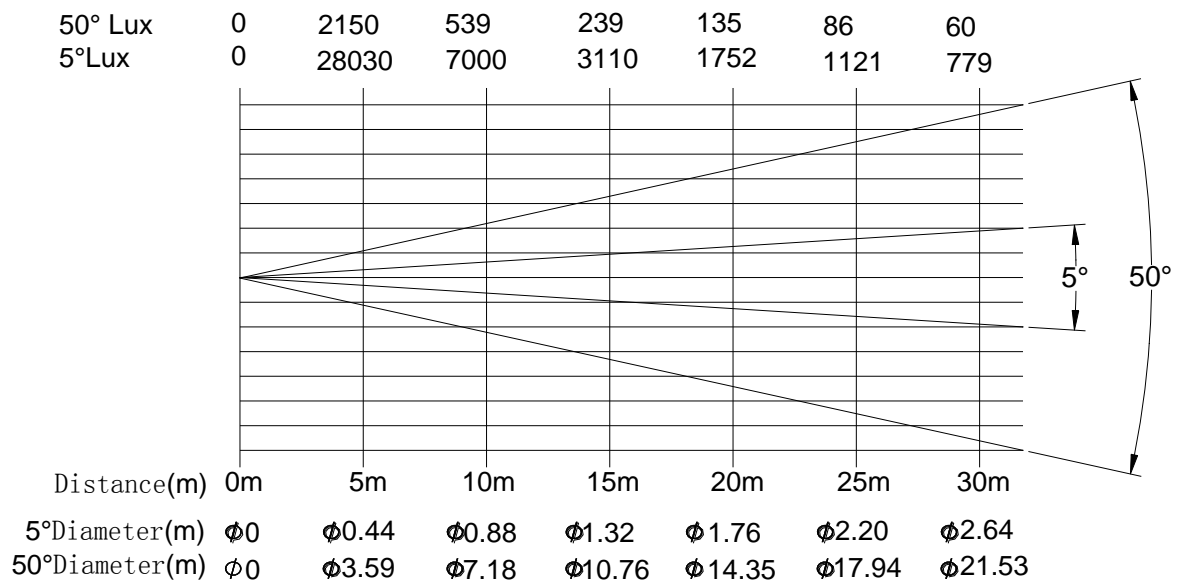
### Beam Mode



## Spot Mode



## Wash Mode



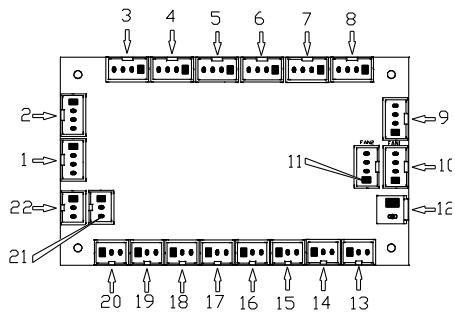
## 11. CIRCUIT DIAGRAM AND PCB CONNECTIONS

### .CIRCUIT DIAGRAM



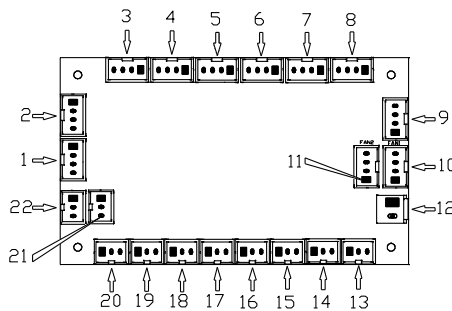
## PCB CONNECTIONS

### 1.8-Channel SLAVE1 :



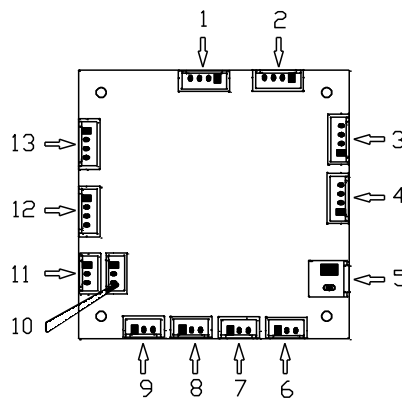
8 Channel Driver Board 1			
1	M1-1 Motor	12	24V Input
2	M1-2 Motor	13	Reserved
3	M1-3 Motor	14	Reserved
4	M1-4 Motor	15	HALL1-6 Magnet Sensor
5	M1-5 Motor	16	HALL1-5 Magnet Sensor
6	M1-6 Motor	17	HALL1-4 Magnet Sensor
7	Reserved	18	HALL1-3 Magnet Sensor
8	Reserved	19	HALL1-2 Magnet Sensor
9	Reserved	20	HALL1-1 Magnet Sensor
10	Ceramic Fan	21	Signal output
11	CYM Fan	22	Signal input

### 2.8-CHANNEL SLAVE2:



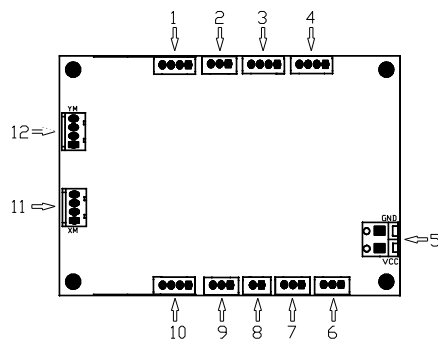
8 Channel Driver Board 2			
1	M2-1 Motor	12	24V Input
2	M2-2 Motor	13	HALL2-8 Magnet Sensor
3	M2-3 Motor	14	HALL2-7 Magnet Sensor
4	M2-4 Motor	15	HALL2-6 Magnet Sensor
5	M2-5 Motor	16	HALL2-5 Magnet Sensor
6	M2-6 Motor	17	HALL2-4 Magnet Sensor
7	M2-7 Motor	18	HALL2-3 Magnet Sensor
8	M2-8 Motor	19	HALL2-2 Magnet Sensor
9	Thermal Sensor	20	HALL2-1 Magnet Sensor
10	Head Fan 1	21	Signal output
11	Head Fan 2	22	Signal input

### 3. 4-CHANNEL SLAVE3:



4 Channel Driver Board 3			
1	M3-3 Motor	8	Reserved
2	M3-4 Motor	9	Reserved
3	Gravity Sensor	10	Signal input
4	Reserved	11	Reserved
5	24V Input	12	M3-1 Motor
6	Reserved	13	M3-2 Motor
7	HALL3-3 Magnet Sensor		

### 4.XY BOARD:



Pan & Tilt Board			
1	TILT ENCODER	7	Signal output
2	SY Magnet Sensor	8	Reserved
3	FAN2 (Ballast Fan)	9	SX Magnet Sensor
4	FAN1 (Power Switch Fan)	10	PAN ENCODER
5	24V Input	11	J1PAN Motor
6	Signal input	12	TILT Motor

**12. COMPONENT ORDER CODES**

NAME	PART NO.	QUANTITY	REMARK
PAN MOTOR	030040233A	1	
TILT MOTOR	030040233A	1	
DIMMER/STROBE MOTORS	030040121	2	
CYM MOTOR	030040114A	3	
ROTATING GOBO WHEEL MOTOR	030040213A	1	
FIXED GOBO MOTOR	030040224A	1	
COLOR WHEEL MOTOR	030040214	1	
DIFFUSER MOTOR	030040214	1	
GOBO ROTATION MOTOR	030040224A	1	
FOCUS MOTOR	030040213A	1	
FROST MOTOR	030040221A	1	
ZOOM MOTOR	030040213A	1	
8FACET/16FACET PRISM ROTATION MOTOR	030040220A	2	
8FACET/16FACET PRISM-IN/OUT MOTOR	030040214	2	
FAN	030060095A	4	
TURBO- FAN	030060102	3	
FAN	030060089	2	
LAMP BALLAST	040070149	1	
LAMP	100070053	1	
ROTATING GOBO WHEEL ACCESSORY	120110817	1	
COLOR WHEEL ACCESSORY	120110823	1	
FIXEDGOBO WHEEL ACCESSORY	120110818	1	
POWER SWITCH	192010223	1	





## PR LIGHTING LTD.

---

1582 Xingye Avenue, Nancun Panyu  
Guangzhou, 511442 China  
TEL: +86-20-3995 2888

---

PR lighting will try its best to offer accurate and overall information about a product's technical data. Any changes won't be notified if necessary. Patented Products.  
Counterfeiting Will be Prosecuted!

P/N: 320021044  
Version:20200904