XRLED 1500-W Spot

PR-8170A

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

INDEX

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

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

Any future technical changes are not subject to further notice.

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

<table>
<tr><td></td><td colspan="2">NOTE
Before a projector's installation, power-on, operation and maintenance, please carefully read the safety information hereinafter!</td></tr>
</table>

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 a projector. Should there be any damage caused by transportation, consult your dealer and do not use it.

●The manufacturer is not responsible for any loss caused by the user not following the manual or changing a projector as he/she likes.

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

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

● A projector with IP20 can only be used indoors.

●For a projector with IP20, keep it away from rain and moisture, excessive heat, humidity and dust. Do not allow its contact with water or any other liquids.

●A projector should be kept away from high temperature, fire, electrical surge, vibration and strong light while running.

●.Any maintenance and repair of a projector shouldn't be carried out by a user and the user shouldn't open it for any repair work.

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

●Do not connect a projector to any type of dimmer pack.

●If the lamp, lens and screen protective cover of the a projector have obvious damage, i.e., to the extent that it hurts the performance like cracking or deformation. Please stop using it and replace them with the original parts, otherwise its performance will be compromised.

● For the installation location of a projector, it shouldn't be seen in the distance of less than 4 meters for a long time.

●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 like eye goggles , gloves and etc..

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

●Before installation, please confirm the voltage supplied matches what is required for a 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 a 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.

●If a projector is not water and dust proof, while being operated it should not be under rains or in humidity to avoid short circuit.

●Do not switch on and off a 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 a projector is disconnected from power mains.

● While running normally under normal ambient temperature, the temperature of the external surface of the metal housing of a projector including that of the heat sink may reach 75℃ at maximum.

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

●While it running, don't touch the metal housing to avoid being burned!

●Do not mount a projector directly on inflammable surface.

●Do not project the beam straightly on combustible items and the minimum distance between a projector and illuminated items is 5m.

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

●Do not let the front lens under sunlight or other strong light sources at any angle, otherwise the danger of fire can be caused by the focused beam by the lens inside a projector.

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 15days. 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 20days and internal optical systems every 30/60days. 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 can't be switched on	➢ Check if the fuse is burned ➢ Check if the power cord is connected well ➢ Check if the switching power supply is bad or not connected well. A professional technician is required for the repair ➢ Check if the control board is connected well. .A professional technician is required for the repair
The projector can be switched on , but the LED lamp's brightness can't be controlled	➢ Check if the LED driver board is connected well. A professional technician is required for the repair
The projector can be switched on normally, but not controlled by the DMX controller	➢ Make sure that the fixture's start address is right ➢ Replace or repair the XLR signal cable.
The beam is not bright and its brightness decreases sharply	➢ Make sure the fans are working well or fans and their shields are not blocked by dust. ➢ Make sure that the internal optics is clean.
The project image appears to have a halo	➢ Carefully clean the LED lamp, optical lenses and other components.
Heavily Defective Beam	➢ Check if lens are in good condition(not cracked) ➢ Clean dust or grease on the lens.

3. APPEARANCE

HEAD

ARM

BASE
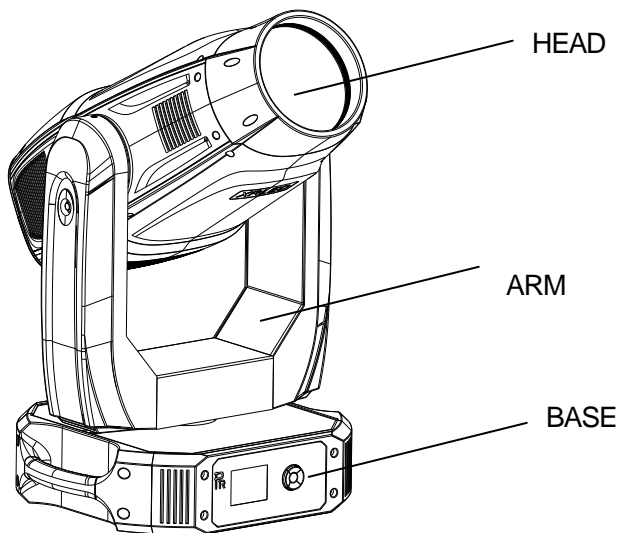
4. INSTALLATION

.RIGGING

During transportation, please lock the projector well; Before the use of projector please unlock the head. It's forbidden to run the projector without unlock Pan and Tilt

CLAMP

SAFETY CORD

WARMING
Please run safety cord through 2 safety holes for safety
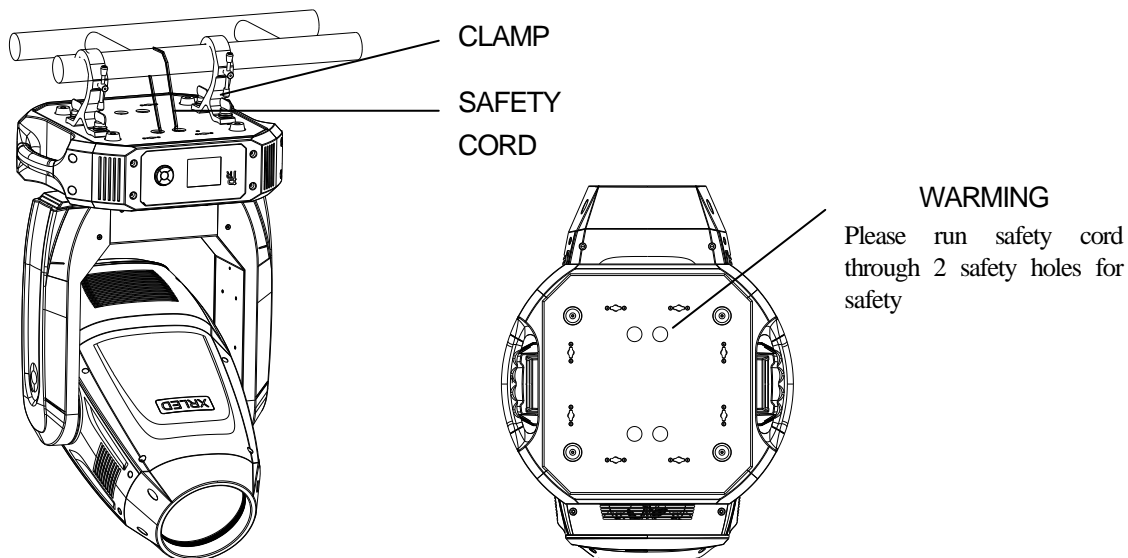
Take 2 clamps and 1 safety cords out from the package and mount 2 clamps on the underside of fixture with 4 retainers attached to each clamp. Hang the fixture on the structure and fasten the screws attached to each clamp. (See the **WARNING** on the underside of the base as shown above) Always ensure 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 is secure and is strong enough to support the weight of the fixture.

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.**
●**For safety, it should not be hung by its sides.**

● **POWER CONNECTIONS**

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.**
●**The lighting fixture is with waterproof power socket, it should be equipped with same IP rating power plug.**

●**DMX CONTROL CONNECTION**

5-PIN

DMX 512	
PIN	FUNCTION
1	GND
2	DATA-
3	DATA+
4	N/C
5	N/C
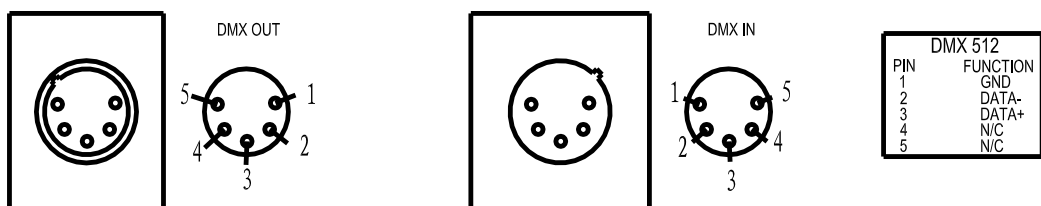
Connection between controller and projector and between one projector and another must be made with a twin-screened cable, with

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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 projector 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.

Terminator   INPUT   OUTPUT   INPUT   OUTPUT   DMX512
                                                                                    Controller
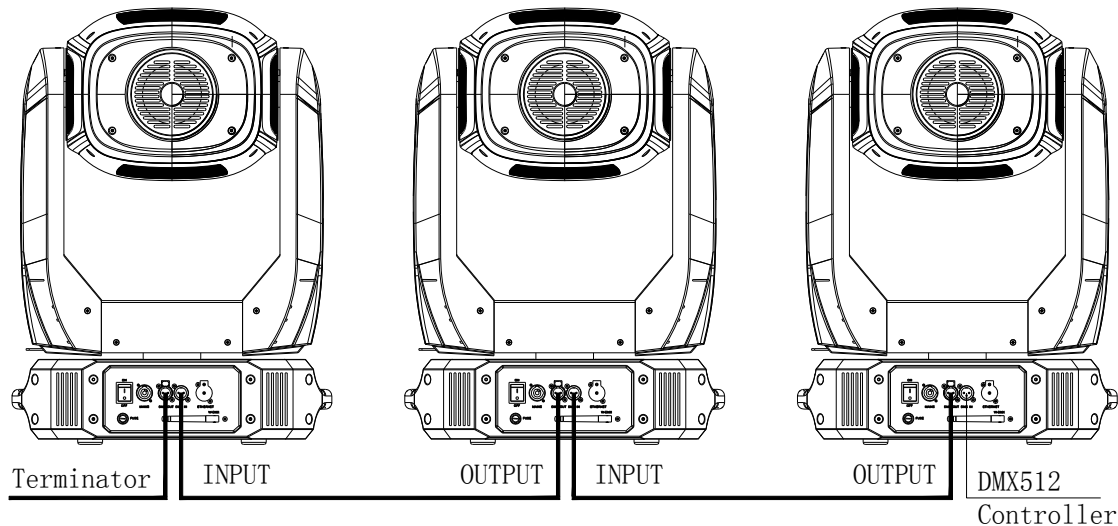
● **DMX TERMINATOR**

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

DMX TERMINATOR
CONNECTION
Connect a 120Ω(OHM) resistor across pins 2 and 3 in an XLR plug and insert into the DMX out socket on the last unit in the chain.

● **REPLACEMENT OF GOBOS**

Rotating gobo wheel 1

Rotating gobo wheel 2

Color wheel
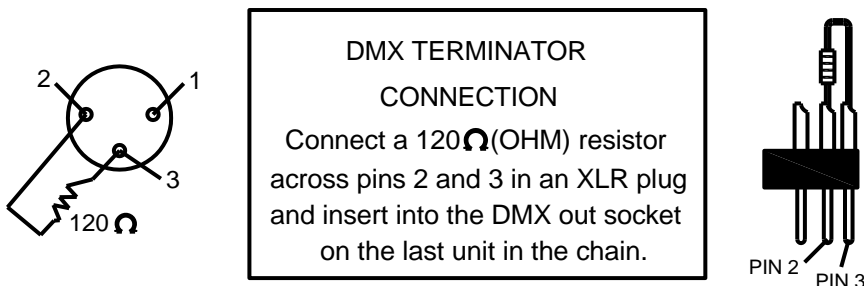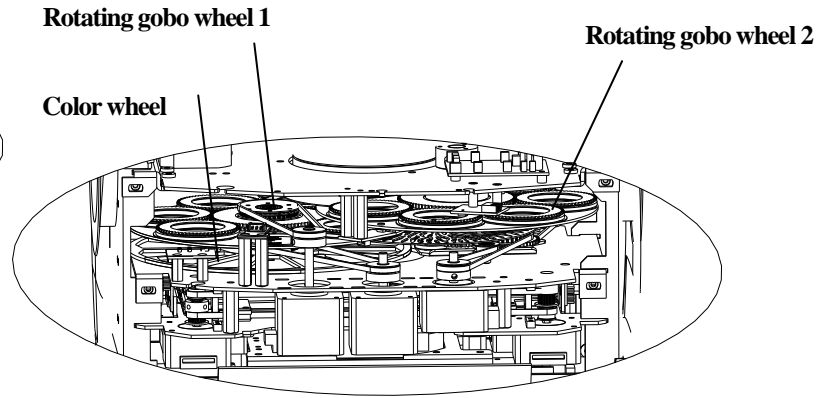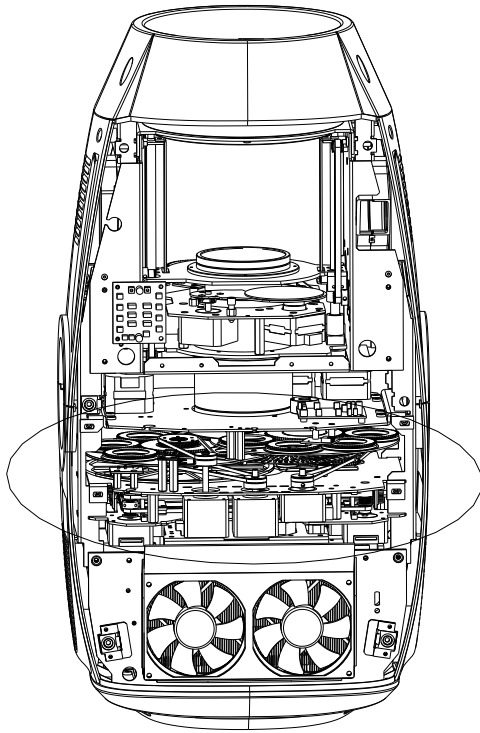
Lock the tilt and unfasten 6 fast fit screws in the front cove. Open the cover and you'll see the structures as the figures above.

For the replacement of color filters, use the fingers to remove the filters and place new ones.

For the rotating gobos: remove the rotator by hand; remove the gobo after the tightening spring for the gobo is taken out. Place a new gobo in the rotator and put back the spring. And ensure the spring is into the narrow end of the rotator, i.e., inner ring of the rotator. At last, use a proper tool to pull the tightening clip and put the rotator back to the wheel with the help of the other hand.

Note: Do not touch the color filters ,glass gobos with bare hand. There must be soft and clean paper or cloth between the hand and the glass gobo. Tighten the 6 fast fit screws after the cover is put back. Unlock the Tilt.

DANGER!
BEFORE THE REPLACEMENT OF GOBO AND COLOR FILTER, THE PROJECTOR MUST BE OFF POWER.

5. SETUP AND CONFIGURATION
•FRONT PANEL OPERATION
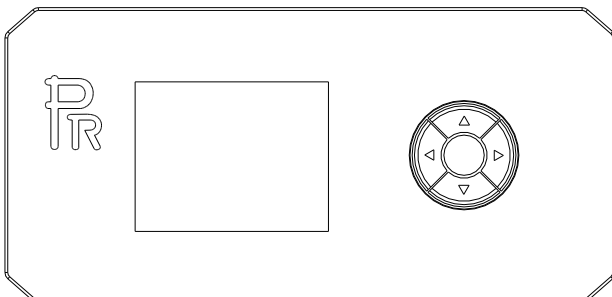
The configuration and start address can be set conveniently via push button and color touch screen.

To view or change its setup, touch any white area of the screen or push the key OK for more than 3 seconds to unlock the display(While only on battery, push OK key). After the unlocking, push ► key to enter into function menus. Each main menu has its

submenus and each submenu has a specific function. For details, please see the "OPERATION MENU" with following the 6th point..

1. In the page of function setup, push any key of ◄, ►, ▲ and ▼ or icon for the function desired.

2. At 2nd,3rd and 4th level menus, key ◄ means ESCAPE, key ► won't function, key OK means ENTER. Push key OK to save any changes o enter into submenus. Push key ▲or ▼ to change numbers(plus or minus) or tap any item required for changes.

Push the left key or shortcut key X to go back to the upper level menu. If none pushed, the system will go back to initial display automatically.

Shortcut keys: after the interface of FUNCTION MENU, the upper part is with menus for many functions. On the right, there are 4 shortcut keys, which are ←,→,lamp control or English/Chinese menus.

● 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 3 DMX modes. There are short mode ,standard mode and extended mode. For example standard mode has 31 **c**hannels, so set the No. 1 projector's address 001, No. 2 projector's address 032, No. 3 projector's address 063, No. 4 projector's address94, and so on.

Launch the projector. Press key OK more than 3seconds to unlock the display. After the unlocking, push key ► to enter into menus. After selecting the sign of   DMX setting, push OK key or tap the screen directly and select DMX address at 2nd level menus. Push key▲ or ▼ or tap sign < or > to set the number desired.

Push OK key to confirm.

Push key◄ and   it will return to the upper 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. Enter into the projector's menu. Select the menu "Config Settigns" via the keys of ▲ and ▼

2. Select **DMX control Mode**---- **Wireless First** (Note: Do not select **XLR ONLY).** The DMX wireless control function is activated.

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 Unlink Wireless under the upper level menu of Config Settigns.

●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 1st 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

Slave   Slave   Master

Terminator   INPUT   OUTPUT   INPUT   OUTPUT
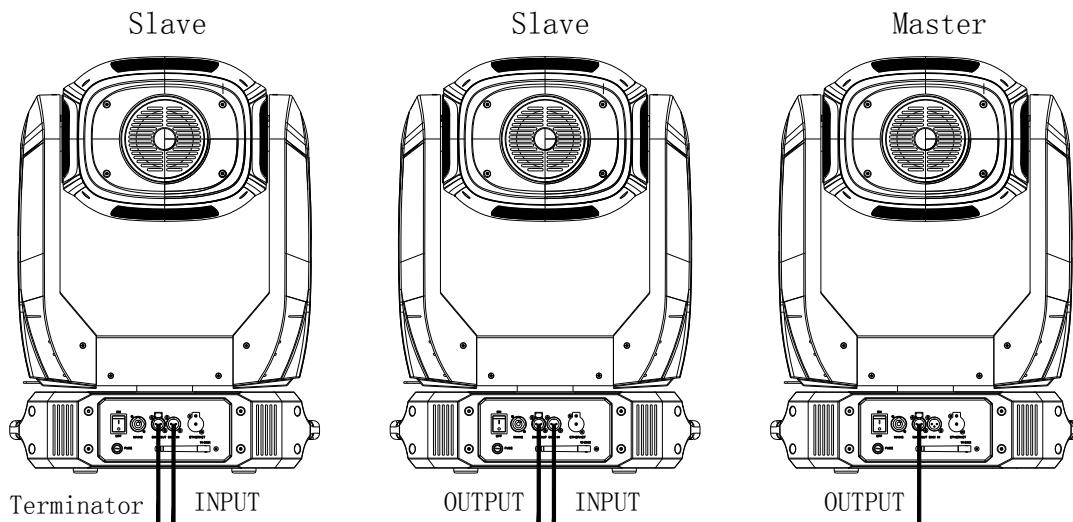
6. OPERATION MENU

1st LEVEL	2nd LEVEL	3rd LEVEL	4th LEVEL	5th LEVEL
Address	DMX Address	Short mode：1～486 Standard mode：1～482 Extend mode：1～475		
	IP Address	Default IP Address	2.X.X.X /10.X.X.X	
		Custom IP Address	X.X.X.X	
	SubNet Mask	X.X.X.X		
	ArtNet Universe	0-255		
Reset	Total Reset	Really Reset?	Confirm/ Cancel	
	Pan&Tilt Reset	Really Reset?	Confirm/ Cancel	
	Colour System Reset	Really Reset?	Confirm/ Cancel	
	Gobo Reset	Really Reset?	Confirm/ Cancel	
	Zo.Fo.Fr.Pr. Reset	Really Reset?	Confirm/ Cancel	
	Other Reset	Really Reset?	Confirm/ Cancel	
Config Settings	DMX Channel Mode	Short Mode 27CH		
		Standard Mode 31CH		
		Extended Mode 38CH		
		View Selected Mode	Strobe …..	
	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/ Cancel
	Factory Defaults	Restore Defaults?	Confirm/ 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	Iris Invert	OFF/ ON
		Zoom Invert	OFF/ ON
		CYM Invert	OFF/ ON
		CTO Invert	OFF/ ON
	Dimmer Settings	Gamma Curve	Gamma 2.0/2.2/2.4/2.6
		LED Refresh Rate	1200/2400/4800/10000/12000/15000/20000/25000Hz
		Dimmer Speed	Fast/Medium/Slow Speed
	Fan Settings	Standard/Theatre	
	Defaults	Restore Defaults?	Confirm/ Cancel
Information	View DMX Values	Channel Value Strobe XXX Dimmer XXX Dimmer Fine XXX CYM Macro XXX Cyan XXX Yellow XXX Magenta XXX CTO XXX Colour Wheel XXX Colour Wheel Fine XXX Iris XXX Iris Macro XXX Rot.Gobo1 Wheel XXX Rot.Gobo1 Rotation XXX Rot.Gobo1 Rotation F XXX Rot.Gobo2 Wheel XXX Rot.Gobo2 Rotation XXX Rot.Gobo2 Rotation F XXX Prism XXX Prism Rotation XXX Effect Wheel XXX Effect Wheel R XXX Frost XXX Focus XXX Zoom XXX Pan XXX Pan Fine XXX Tilt XXX Tilt Fine XXX Pan/Tilt Speed&Time XXX Power/Special Fun XXX		
	Lamp Hours	Lamp Hous=XXXXH Reset Lamp Hours	
	Total Hours	Total Hous=XXXXH	
	Temperature	Display Board XX℃/F	
		Pan & Tilt Board XX℃/F	
		Driver Board 1 XX℃/F	
		Driver Board 2 XX℃/F	

		Driver Board 3 XX℃/F		
		Driver Board 4 XX℃/F		
		Fan Board XX℃/F		
		LED Sensor XX℃/F		
	Software Version	Display Board	Sys= XXX Boot =XXX	
		Pan & Tilt Board	Sys= XXX Boot =XXX	
		Driver Board 1	Sys= XXX Boot =XXX	
		Driver Board 2	Sys= XXX Boot =XXX	
		Driver Board 3	Sys= XXX Boot =XXX	
		Driver Board4	Sys= XXX Boot =XXX	
		Fan Board	Sys= XXX Boot =XXX	
	Electronic SN	Electronic SN= ************		
	RDM Device Label	XR LED 1500-W Spot ANSI E1.20 RDM		
	Fan Status	LED Fan		
		Head Fan1		
		Head Fan2		
Service	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 CTO　　　　　XXX CTO Fine　　　XXX Colour Wheel　　XXX Colour Wheel Fine　　XXX Iris　　　　　XXX Iris Fine　　　XXX Iris Macro　　　XXX Rot.Gobo1 Wheel　　XXX Rot.Gobo1 Rotation　　XXX Rot.Gobo1 Rotation F　XXX Rot.Gobo2 Wheel　　XXX Rot.Gobo2 Rotation　　XXX Rot.Gobo2 Rotation F　XXX Prism　　　　　XXX Prism Rotation　　XXX Effect Wheel　　XXX Effect Wheel R　　XXX Frost　　　　　XXX Focus　　　　　XXX Focus Fine　　XXX Zoom　　　　　XXX Zoom Fine　　　XXX		

		Pan XXX Pan Fine XXX Tilt XXX Tilt Fine XXX Pan/Tilt Speed&Time XXX		
	Factory Test			
Operation Mode	DMX Mode	Change Operation Mode?	Confirm/ Cancel	
	Master Mode	Preset Memory	Change Operation Mode?	Confirm/ Cancel
		User Memory 1	Change Operation Mode?	Confirm/ Cancel
		User Memory 2	Change Operation Mode?	Confirm/ Cancel
	Stand-Alone Mode	Preset Memory	Change Operation Mode?	Confirm/ Cancel
		User Memory 1	Change Operation Mode?	Confirm/ Cancel
		User Memory 2	Change Operation Mode?	Confirm/ Cancel
	Static Scene	Change Operation Mode?	Confirm/ Cancel	
User Memories	Edit User Memory	Edit User Memory 1 / Edit User Memory 2	Scene XX （1~200 Scenes）	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 CTO XXX CTO Fine XXX Colour Wheel XXX Colour Wheel Fine XXX Iris XXX Iris Fine XXX Iris Macro XXX Rot.Gobo1 Wheel XXX Rot.Gobo1 Rotation XXX Rot.Gobo1 Rotation F XXX Rot.Gobo2 Wheel XXX Rot.Gobo2 Rotation XXX Rot.Gobo2 Rotation F XXX Prism XXX Prism Rotation XXX Effect Wheel XXX Effect Wheel R XXX Frost XXX Focus XXX Focus Fine XXX Zoom XXX Zoom Fine XXX Pan XXX Pan Fine XXX Tilt XXX Tilt Fine XXX Pan/Tilt Speed&Time XXX Fade Time XXX Hold Time XXX Delay Unit MS/S/MIN 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
				CTO	XXX
				CTO Fine	XXX
				Colour Wheel	XXX
				Colour Wheel Fine	XXX
				Iris	XXX
				Iris Fine	XXX
				Iris Macro	XXX
				Rot.Gobo1 Wheel	XXX
				Rot.Gobo1 Rotation	XXX
				Rot.Gobo1 Rotation F	XXX
				Rot.Gobo2 Wheel	XXX
				Rot.Gobo2 Rotation	XXX
				Rot.Gobo2 Rotation F	XXX
				Prism	XXX
				Prism Rotation	XXX
				Effect Wheel	XXX
				Effect Wheel R	XXX
				Frost	XXX
				Focus	XXX
				Focus Fine	XXX
				Zoom	XXX
				Zoom Fine	XXX
				Pan	XXX
				Pan Fine	XXX
				Tilt	XXX
				Tilt Fine	XXX
				Pan/Tilt Speed&Time	XXX
	Init User Memory	Reset User Memory 1	Reset User Memory?	Input Password 123	
		Reset User Memory 2	Reset User Memory?	Input Password 123	
		Reset Static Scene	Reset Static Scene?	Input Password 123	

Remark:
1. In the synchronous control of multiple projectors parameters can be transmitted from the master including: DMX mode, display setting, operation mode(user memory);
2. all projectors Accepting parameters will automatically be set to slave mode.

7. DMX PROTOCOL

Short mode	Standard mode	Extended mode	Function Description	Decimal Low	Decimal High
1	1	1	**Strobe**		
			Close	0	0
			Pulse strobe speed from slow to fast	1	127
			Strobe speed slow to fast	128	255
2	2	2	**Dimmer**		
			Close	0	3
			Dimmer from dark to light (0-100%)	4	255
	3	3	**Dimmer Fine**		

			Fine dimmer	0	255
3	4	4	**CYM Macro**		
			The following functions can be used after CMY,CTO, and Color Wheels channels are disabled		
			No Function	0	9
			Colour Macro 1	10	11
			Colour Macro 2	12	13
			Colour Macro 3	14	15
			Colour Macro 4	16	17
			Colour Macro5	18	19
			Colour Macro 6	20	21
			Colour Macro 7	22	23
			Colour Macro 8	24	25
			Colour Macro 9	26	27
			Colour Macro 10	28	29
			Colour Macro 11	30	31
			Colour Macro 12	32	33
			Colour Macro 13	34	35
			Colour Macro 14	36	37
			Colour Macro 15	38	39
			Colour Macro 16	40	41
			Colour Macro 17	42	43
			Colour Macro 18	44	45
			Colour Macro 19	46	47
			Colour Macro 20	48	49
			Colour Macro 21	50	51
			Colour Macro 22	52	53
			Colour Macro 23	54	55
			Colour Macro 24	56	57
			Colour Macro 25	58	59
			Colour Macro 26	60	61
			Colour Macro 27	62	63
			Colour Macro 28	64	65
			Colour Macro 29	66	67
			Colour Macro 30	68	69
			Colour Macro 31	70	71
			Colour Macro 32	72	73
			Colour Macro 33	74	75
			Colour Macro 34	76	77
			Colour Macro 35	78	79
			Colour Macro 36	80	81
			Colour Macro 37	82	83
			Colour Macro 38	84	85

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			Colour Macro 39	86	87
			Colour Macro 40	88	89
			Colour Macro 41	90	91
			Colour Macro 42	92	93
			Colour Macro 43	94	95
			Colour Macro 44	96	97
			Colour Macro 45	98	99
			Colour Macro 46	100	101
			Colour Macro 47	102	103
			Colour Macro 48	104	105
			Colour Macro 49	106	107
			Colour Macro 50	108	109
			Colour Macro 51	110	111
			Colour Macro 52	112	113
			Colour Macro 53	114	115
			Colour Macro 54	116	117
			Colour Macro 55	118	119
			Colour Macro 56	120	121
			Colour Macro 57	122	123
			Colour Macro 58	124	125
			Colour Macro 59	126	127
			Colour Macro 60	128	129
			Colour Macro 61	130	131
			Colour Macro 62	132	133
			Colour Macro 63	134	135
			Colour Macro 64	136	137
			Colour Macro 65	138	139
			Colour Macro 66	140	141
			Colour Macro 67	142	143
			Colour Macro 68	144	145
			Colour Macro 69	146	147
			Colour Macro 70	148	149
			Colour Macro 71	150	151
			Colour Macro 72	152	153
			Colour Macro 73	154	155
			Colour Macro 74	156	157
			Colour Macro 75	158	159
			Colour Macro 76	160	161
			Colour Macro 77	162	163
			Colour Macro 78	164	165
			Colour Macro 79	166	167
			Colour Macro 80	168	169
			Colour Macro81	170	171

			Colour Macro 82	172	173
			Colour Macro 83	174	175
			Colour Macro 84	176	177
			Colour Macro 85	178	179
			Colour Macro 86	180	181
			Colour Macro 87	182	183
			Colour Macro 88	184	185
			Colour Macro 89	186	187
			Colour Macro 90	188	189
			Colour Macro 91	190	191
			Colour Macro 92	192	193
			Colour Macro 93	194	195
			Colour Macro 94	196	197
			Colour Macro 95	198	199
			CMY colour mixing from slow to fast	200	255
4	5	5	**Cyan**		
			Cyan (Linear 0-100%)	0	255
		6	**Cyan Fine**		
			Cyan in 16 Bit precision	0	255
5	6	7	**Yellow**		
			Yellow (Linear 0-100%)	0	255
		8	**Yellow Fine**		
			Yellow in 16 Bit precision	0	255
6	7	9	**Magenta**		
			Magenta (Linear 0-100%)	0	255
		10	**Magenta Fine**		
			Magenta in 16 Bit precision	0	255
7	8	11	**CTO**		
			Linear adjust from high to low	0	255
		12	**CTO Fine**		
			CTO in 16 Bit precision	0	255
8	9	13	**Colour Wheel**		
			Continual positioning		
			index 0-360 °	0	63
			positioning		
			White	64	67
			White/Color1(UV)	68	71
			Color1(UV)	72	75
			Color1(UV)/Color 2(Red)	76	79
			Color 2(Red)	80	83
			Color 2(Red)/Color 3(Pink)	84	87
			Color 3(Pink)	88	91
			Color 3(Pink)/ Color 4(Orange)	92	95

			Color 4(Orange)	96	99
			Color 4(Orange) /Color 5(Green)	100	103
			Color 5(Green)	104	107
			Color 5（Green））/Color 6（Blue）	108	111
			Color 6(Blue)	112	115
			Color6(Blue)/ White	116	119
			White	120	127
			Clockwise rainbow effect rotation speed from slow to fast	128	191
			Anti-clockwise rainbow effect rotation speed from slow to fast	192	255
	10	14	**Colour Wheel Fine**		
			Colour Continual positioning in 16 Bit precision	0	255
9	11	15	**Iris**		
			Linear Iris from small to big 0-100%	0	255
		16	**Iris in 16　bit**		
			Iris in 16 bit precision	0	255
10	12	17	**Iris Macro**		
			Iris Macro disabled	0	10
			Iris Macro1: from big to small with speed from slow to fast	11	74
			Iris Macro2: from small to big with speed from slow to fast	75	138
			Iris Macro3: Iris contracts from slow to fast	139	202
			Iris Macro4(Macro1 at random) with speed from slow to fast	203	210
			Iris Macro5(Macro2 at random) with speed from slow to fast	211	218
			Iris Macro6(Macro3 at random) with speed from slow to fast	219	226
			Open	227	255
11	13	18	**Rotating gobo wheel　1**		
			White	0	31
			Gobo1	32	47
			Gobo2	48	63
			Gobo3	64	79
			Gobo4	80	95
			Gobo5	96	111
			Gobo6	112	127
			Clockwise rotation from slow to fast	128	143
			Anti-clockwise rotation from slow to fast	144	159
			Gobo1 shake from slow to fast	160	175
			Gobo2 shake from slow to fast	176	191
			Gobo3 shake from slow to fast	192	207
			Gobo4 shake from slow to fast	208	223
			Gobo5 shake from slow to fast	224	239
			Gobo6 shake from slow to fast	240	255
12	14	19	**Rotating gobo wheel　1 rotation**		
			Indexing 0-360°	0	128

			Clockwise rotation from slow to fast	129	188
			Stop	189	195
			Anti-clockwise rotation from slow to fast	196	255
	15	20	**Rotating gobo wheel 1 rotation in 16 bit**		
			Rotating gobo wheel fine rotation	0	255
13	16	21	**Rotating gobo wheel 2**		
			White	0	31
			Gobo1	32	47
			Gobo2	48	63
			Gobo3	64	79
			Gobo4	80	95
			Gobo5	96	111
			Gobo6	112	127
			Clockwise rotation from slow to fast	128	143
			Anti-clockwise rotation from slow to fast	144	159
			Gobo1 shake from slow to fast	160	175
			Gobo2 shake from slow to fast	176	191
			Gobo3 shake from slow to fast	192	207
			Gobo4 shake from slow to fast	208	223
			Gobo5 shake from slow to fast	224	239
			Gobo6 shake from slow to fast	240	255
14	17	22	**Rotating gobo wheel 2 rotation**		
			Indexing 0-360 °	0	128
			Clockwise rotation from slow to fast	129	188
			Stop	189	195
			Anti-clockwise rotation from slow to fast	196	255
	18	23	**Rotating gobo wheel 2 rotation in 16 bit**		
			Rotating gobo wheel fine rotation	0	255
15	19	24	**Prism**		
			No Prism	0	16
			Prism	17	255
16	20	25	**Prism rotation**		
			Prism index	0	127
			Prism stops	128	
			Rotation speed from slow to fast	129	191
			Stop rotating	192	
			Reverse rotation speed from slow to fast	193	255
17	21	26	**Effect Wheel**		
			No effect wheel	0	19
			Effect wheel in	20	255
18	22	27	**Effect Wheel Rotation**		
			Forwards rotation from slow to fast	0	127

			Reverse rotation from slow to fast	128	255
19	23	28	**Frost**		
			Light Frost from 0% to 100%	0	255
20	24	29	**Focus**		
			Linearly focusing	0	255
		30	**Focus Fine**		
			Focus in 16 precision	0	255
21	25	31	**Zoom**		
			Linearly zooming	0	255
		32	**Zoom Fine**		
			Zoom in 16 Bit precision	0	255
22	26	33	**Pan**		
			Pan movement	0	255
23	27	34	**Pan Fine**		
			Pan movement in 16 bit precision	0	255
24	28	35	**Tilt**		
			Tilt movement	0	255
25	29	36	**Tilt fine**		
			Tilt movement 16 bit precision	0	255
26	30	37	**Pan/Tilt speed**		
			Fast Speed Mode	0	1
			Pan &Tilt speed from fast to slow	2	255
27	31	38	**Power/Special functions**		
			No function:	0	4
			Reserved	5	19
			To activate following functions, stay in DMX value for at least 5 s		
			Graphic display On	20	24
			Graphic display Off	25	29
			Reserved	30	44
			Reserved	45	46
			Fan Standard Mode	47	48
			Fan Theatre Mode	49	50
			Reserved	51	52
			Dimmer Fast Speed	53	54
			Dimmer Medium Speed	55	56
			Dimmer Slow Speed	57	58
			Gamma Curve 2.0	59	60
			Gamma Curve 2.2	61	62
			Gamma Curve 2.4	63	64
			Gamma Curve 2.6	65	66
			LED Refresh Rate 1200Hz	67	68
			LED Refresh Rate 2400Hz	69	70
			LED Refresh Rate 4800Hz	71	72

				LED Refresh Rate 10000Hz	73	74
				LED Refresh Rate 12000Hz	75	76
				LED Refresh Rate 15000Hz	77	78
				LED Refresh Rate 20000Hz	79	80
				LED Refresh Rate 250000Hz	81	82
				Reserved	83	89
				Pan/Tilt speed mode	90	94
				Pan/Tilt time mode	95	99
				Reserved	100	139
				Pan/Tilt reset	140	149
				Colour system reset	150	159
				Gobo wheels reset	160	169
				Reserved	170	179
				Zoom/focus/frost/prism reset	180	189
				Others(Iris/ effect wheel/Framing module) reset	190	199
				Total reset	200	209
				Reserved	210	229
				Reserved	240	255

Note:

1. The DMX channel priority from high to low: Focus, Zoom, Prism, Frost;

2. While the higher priority DMX channels are in use, lower ones won't work;

8.TECHNICAL DATA

ELECTRICAL PARAMETERS

Input Voltage: 100V-240V AC，50/60Hz

Input Power: 880W @ 220V

930W @ 100V

Max. Current: 10.05 A

Power factor: PF>0.95

SPECIFICATIONS OF LIGHT SOURCE

Lamp   600W

Colour Temperature   8000K
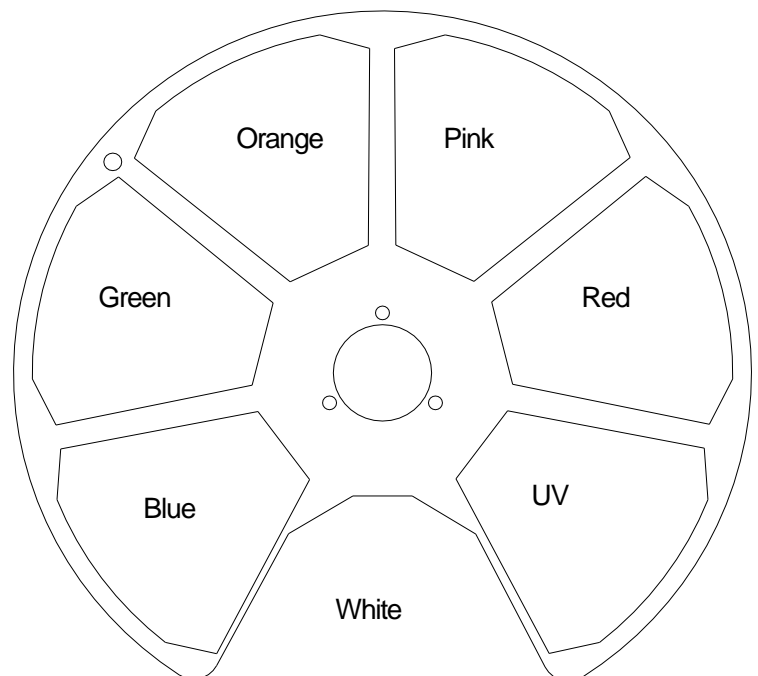
Manufacturers Rated Lamp Life   20000hrs

Ra≥70

Ra≥95 , R9≥90 Lamp :Optional

COLOR S

CMY linear coloring mixing system with macros

1 Color Wheel

6 color s+ white

Bi-directional rainbow effect with variable speeds and half color effect
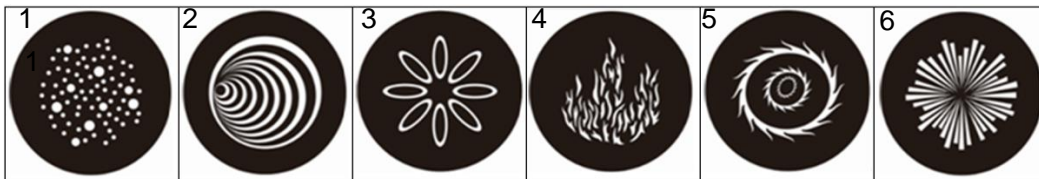
Linear /stepping color changing

CTO
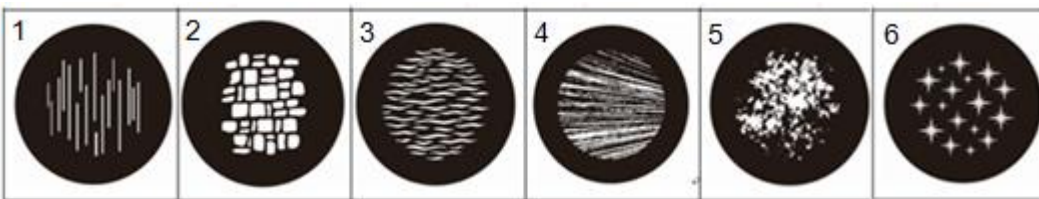
Linear CTO system(0-100%)

GOBOS

2 rotating gobo wheels: 6 exchangeable+ white, glass or metal gobos

Bi-directional rotation, indexing, shake with varied speeds, bi-directional

scrolling with varied speeds

Rotating gob wheel1:

Rotating gob wheel2:

Rotating gobo external size: Ø37.5mm;, image size: Ø24mm

PRISM

1pc 4 facet prism, bi-directional rotation with varied speeds and indexing function (Option: color 4 facet prism)

FROST

Linear frost (0-100%)

EFFECT WHEEL

1 graphic effect wheel, bi-directional rotation with varied speeds

FOCUS

0-100% linearly adjustable by DMX

DIMMER

Linear dimmer 0-100%

3 dimmer speeds

4 dimmer gamma curves

Dimmer frequency(1.2K~2.5K) good for high speed 4K video camera

IRIS

Linear iris 5-100% with macros

STROBE

Double shutter blades, 0.3~25 F.P.S

HEAD MOVEMENT

Pan 540 °, Tilt 270 ° with auto position correction

BEAM ANGLE

Linear zoom 6 °～ 56 ° with 16 bit precision

CONTROL

International standard DMX512 signal , 5 pin interface(Optional 3pin interface)
RDM control protocol
ArtNet protocol
27channels in short mode, 31channels in standard mode,38channel in extended mode
Master and slave synchronized control mode
Stand-alone mode
Master mode

OTHER FUNCTIONS

Adjustable Pan & Tilt speeds

Pan and Tilt swappable and invertible

Fixture and lamp hours' display

Color screen, Chinese-English menus, brightness and contrast adjustable

Diagnostic system with sensors

Built-in rechargeable battery for settings via control panel without mains power

Software version display

Protection and insulation of input signals

Modular construction for easy maintenance

ArtNet interface

DMX512 wireless receiver

DMX512 wireless transmitter(Optional）
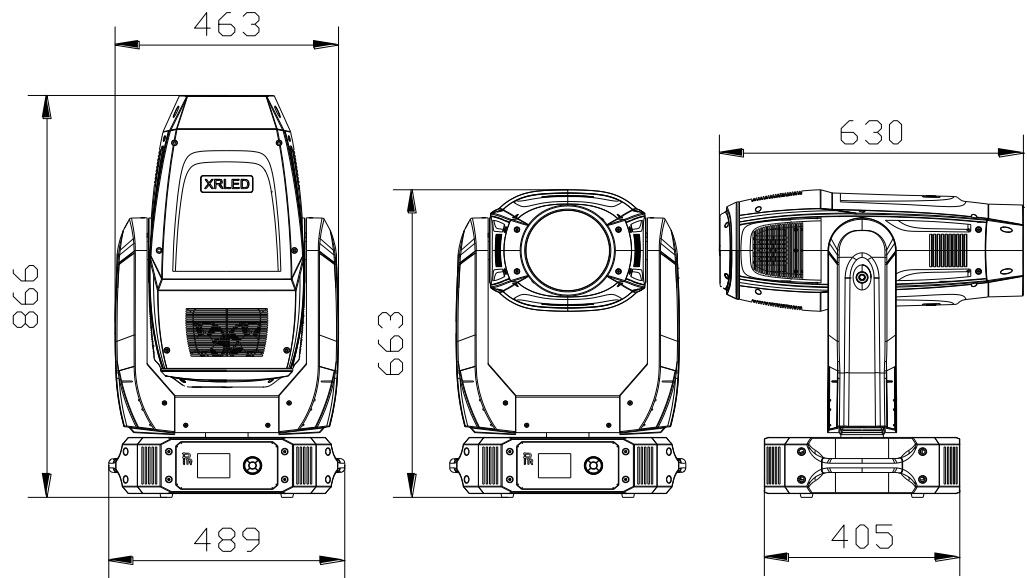
HOUSING

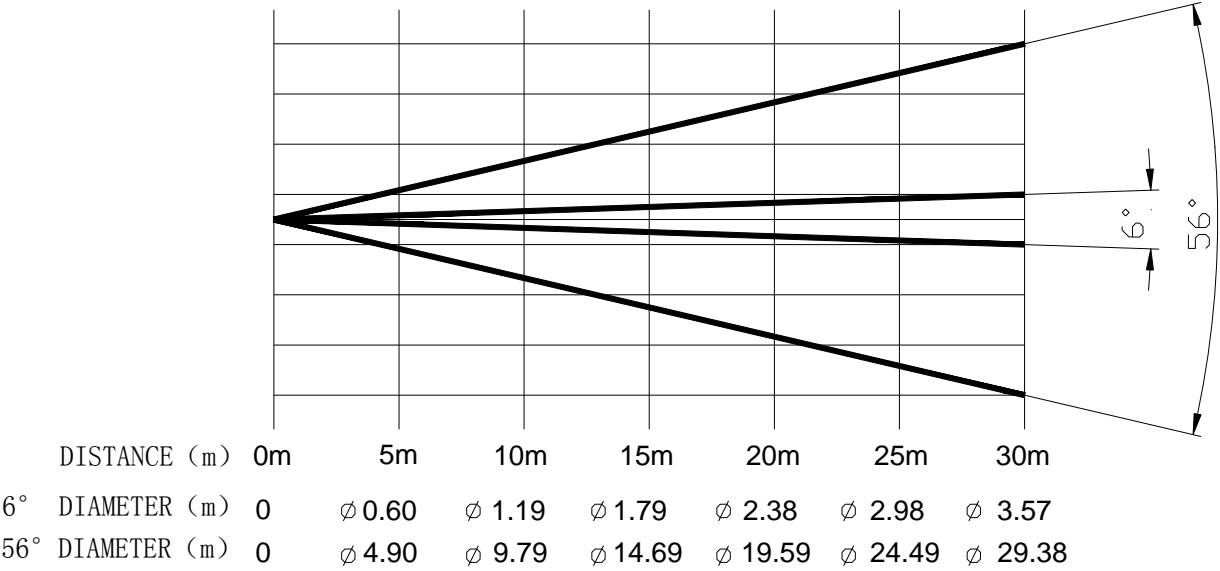High temperature resistant, IP20

WEIGHT

42Kg

AMBIENT TEMPERATURE

-20℃～45℃

SIZES:

463

866

489

663

630

405

LIGHT OUTPUT:

56° （lux）	0	1882	470	209	117	75	52
6° （lux）	0	68560	17690	7862	4422	2830	1966

DISTANCE （m）	0m	5m	10m	15m	20m	25m	30m
6° DIAMETER （m）	0	∅0.60	∅1.19	∅1.79	∅2.38	∅2.98	∅3.57
56° DIAMETER （m）	0	∅4.90	∅9.79	∅14.69	∅19.59	∅24.49	∅29.38

9. **CIRCUIT DIAGRAM AND PCB CONNECTIONS**
    ．CIRCUIT DIAGRAM

LED COOLING FAN

Fan board

LED driverboard 2

LED driverboard 1

Led module

Driver Board 3

FAN1
FAN2
POWER
RS485
M3
M4
I2C
SPI
G C D V
M3-1 Fixed Gobo
M3-2 Cutting Rotat
H3-1 Fixed Gobo
H3-2 Cutting Rotat
M1
M2
H3-2

Driver Board 2

24V FAN
24V FAN
FAN1
FAN2
POWER
RS485
M2-2 Yellow
M2-5 Magenta
M1
M5
M2
M3
M4
M6
SPI
I2C
G C D V
M2-4 Cyan
H2-3 Color wheel
H2-2 Yellow CTO
M2-5 Magenta
M2-1 CTO
M2-3 Color
M2-4 CMY
Cyan CTO

Driver Board 1

24V FAN
FAN1
FAN2
POWER
RS485
M1-3 Gobo Rotation
M1-4 Effect Rotation
M1
M2
M3
M4
I2C
SPI
H1-4 Gobo Rotation
H1-1 Rotating Gobo
H1-2 Effect
M1-1 Rotating Gobo
M1-2 Effect

Driver Board4

FAN1
FAN2
POWER
RS485
M4-5 Prism in/out
M4-6 Prism rotation
M4-7 Frost
M5
M6
M7
M1
M2
M3
M4
M8
SPI
I2C
M4-1 Focus1
M4-2 Focus2
M4-3 Zoom
M4-4 Zoom2
H4-2 Focus
H4-3 Zoom
H4-5 Prism in/out
H4-6 Prism rotation

Display Board

Art-Net/网络IN
POWER1
+24V
GND
BAT
FAN2
24V
FAN1
24V
BASE BOX 24V FAN3
KEY
usb
UART HID LAMP1
MALE DMX-IN
FEMALE DMX-OUT
WIRELESS
WR1SS1
RS485
KEY

XY Driver Board
TILT ENCODE AS5040
HALL TILT
TILT MOTOR
PAN MOTOR
PAN ENCODE AS5040
HALL PAN
12V FAN1 12V FAN2
YDPT
YS1
XDPT
XS1
485
485返回

Power supply 350W
+48V
G
G
+24V
L
N
GND

Power supply 800W
+48V
+48V
G
G
+24V
L
N
GND

Fuse
T20A
Switch
Power input
GND

25

●PCB CONNECTIONS

●Master board
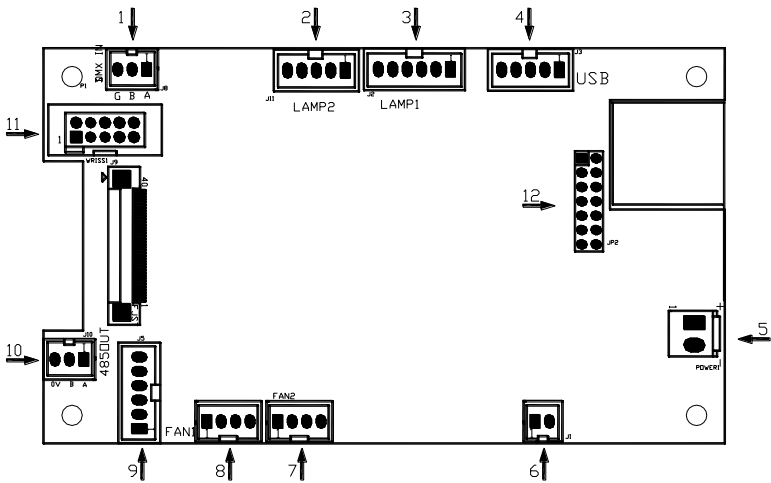
No	Name
1	DMX512 signal input
2	Reserved
3	Reserved
4	Reserved
5	Power input
6	Reserved
7	Fan
8	Fan
9	Key
10	485 signal input
11	Wireless signal input
12	Ethernet module interface

● 8-channel driver board1
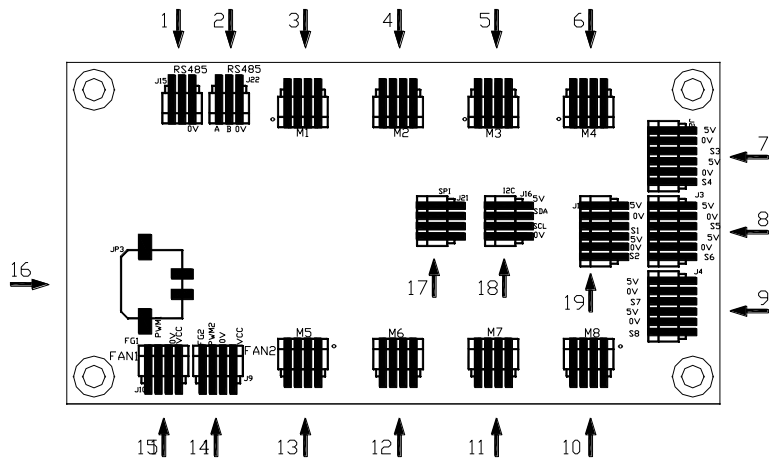
No	Name
1	485 signal input
2	485 signal output
3	Focus 1
4	Focus 2
5	Zoom 1
6	Zoom 2
7	Magnet sensor for zoom
8	Magnet sensor for prism/prism rotation
9	Reserved
10	Reserved
11	Frost filter
12	Prism rotation
13	Prism
14	Reserved
15	Reserved
16	Power input
17	Reserved
18	Reserved
19	Magnet sensor for focus

● LED driver board
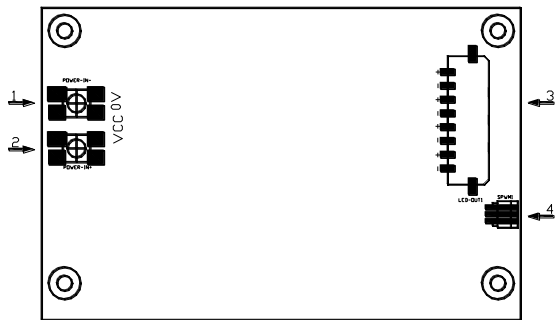
No	Name
1	Power input –negative
2	Power input positive
3	LED output
4	PWM input

● Pan /Tilt driver board
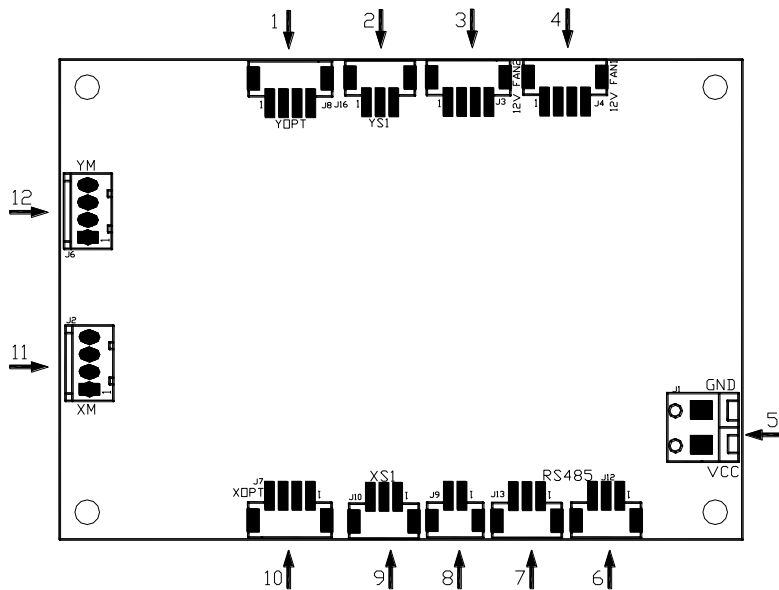
No	Name
1	Optical sensor for Tilt
2	Magnet sensor for Tilt
3	Reserved
4	Reserved
5	Power input
6	485 signal output
7	485 signal input
8	Reserved
9	Magnet sensor for Pan
10	Optical sensor for Pan
11	Pan motor
12	Tilt motor

● 4-channel driver board
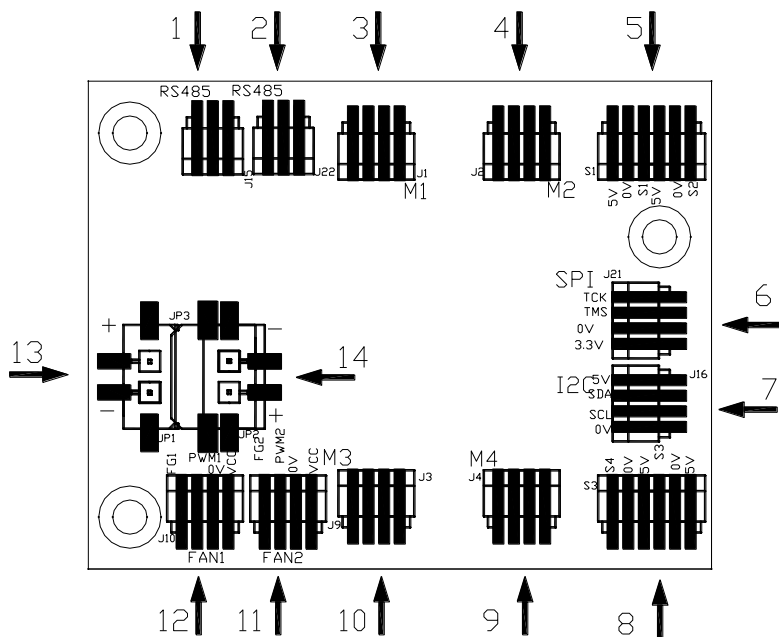
No	Name
1	485 signal input
2	485 signal output
3	Gobo wheel rotation
4	Effect wheel
5	Magnet senor for gobo wheel rotation
6	Reserved
7	Reserved
8	Magnet sensor for gobo rotation
9	Effect wheel rotation
10	Gobo rotation
11	Reserved
12	Fan
13	Reserved
14	Power input

● 5-channel driver board
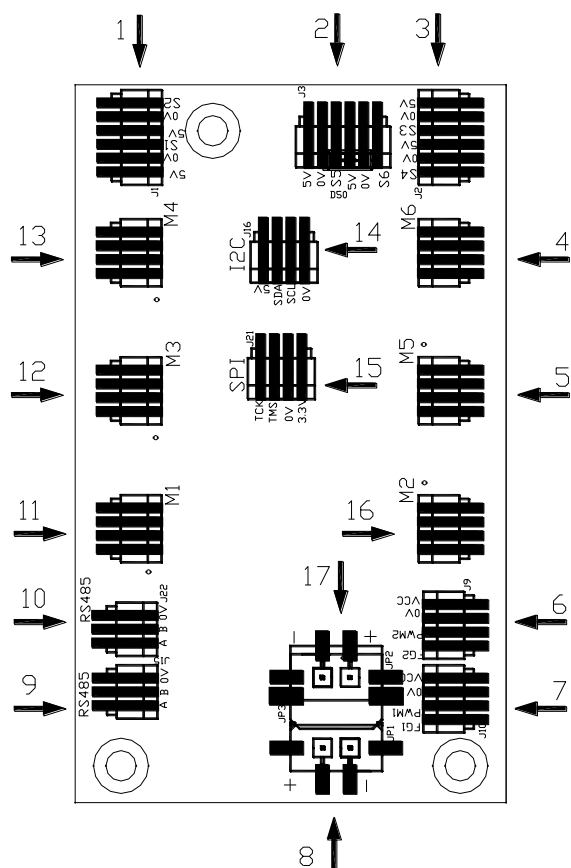
No	Name
1	Magnet sensor for Yellow/CTO
2	Magnet sensor for magenta.
3	Magnet sensor for color filters/cyan flag
4	Reserved
5	Yellow
6	Fan
7	Fan
8	Reserved
9	485 signal input
10	485 signal output
11	Magenta
12	Color wheel
13	Cyan
14	Reserved
15	Reserved
16	CTO
17	Power input

● 3-channel driver board
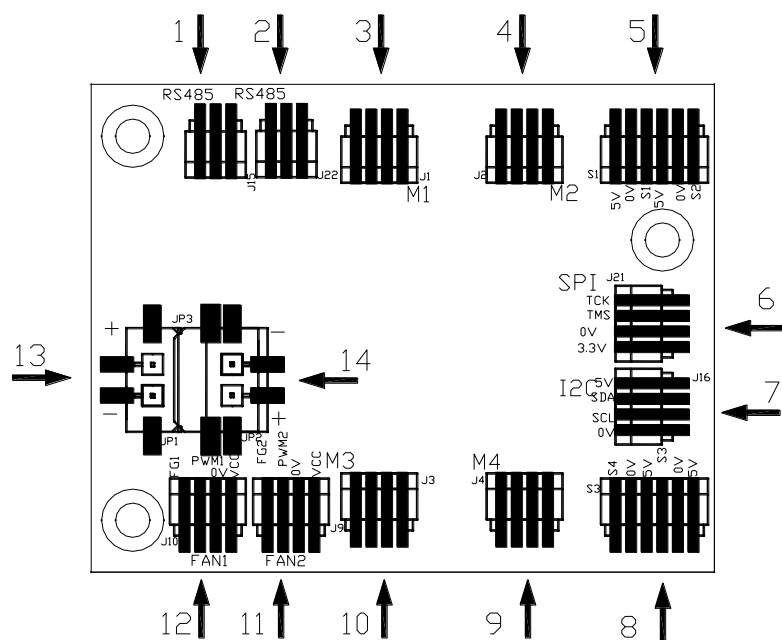
No	Name
1	485 signal input
2	485 signal output
3	Gobo wheel
4	Framing module rotation
5	Framing module rotation/fixed gobo wheel magnet sensor
6	Reserved
7	Reserved
8	Reserved
9	Reserved
10	Iris
11	Reserved
12	Reserved
13	Power input
14	Power input

10. COMPONENT ORDER CODES

NAME	CODE NUMBER	QTY	REMARK
SWITCHING POWER SUPPLY	192010215	1	
SWITCHING POWER SUPPLY	192010226	1	
LED ENGINE MODULE	150020323	1	
LED ENGINE MODULE FAN	030060074C	4	
HEAD FAN	030040119	2	
TILT BELT	290151207	1	
PAN BELT	290151240	1	
FOCUS MOTOR	030040213A	2	
ZOOM MOTOR	030040154A	2	
PRISM IN/OUT MOTOR	030040253	1	
PRISM ROTATION MOTOR	030040203	1	
FROST MOTOR	030040073	1	
ROTATING GOBO WHEEL MOTOR	030040152	1	
GOBO ROTATION MOTOR	030040131	1	
FIXED GOBO WHEEL MOTOR	030040154A	1	
FRAMING ROTATING MOTOR	030040158	1	
FRAMING BLADE MOTOR	030040247	8	
IRIS MOTOR	030040088	1	
EFFECT WHEEL IN/OUT MOTOR	030040149	1	
EFFECT WHEEL ROTATING MOTOR	030040061	1	
COLOR WHEEL MOTOR	030040131	1	
CYM MOTOR	030040211A	3	
CTO MOTOR		1	
PAN MOTOR	030040246A	1	
TILT MOTOR		1	

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