XR 1700 Spot

PR-2880

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

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	2	Pc	
Spare gobos	4	Pcs	
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.

Any future technical changes in the user manual won't be with any 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>

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 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 5 minutes, the temperature of the housing of the projector is 80℃.After stable operation , its temperature is 170℃.
- 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 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(Details vary with different projectors)**

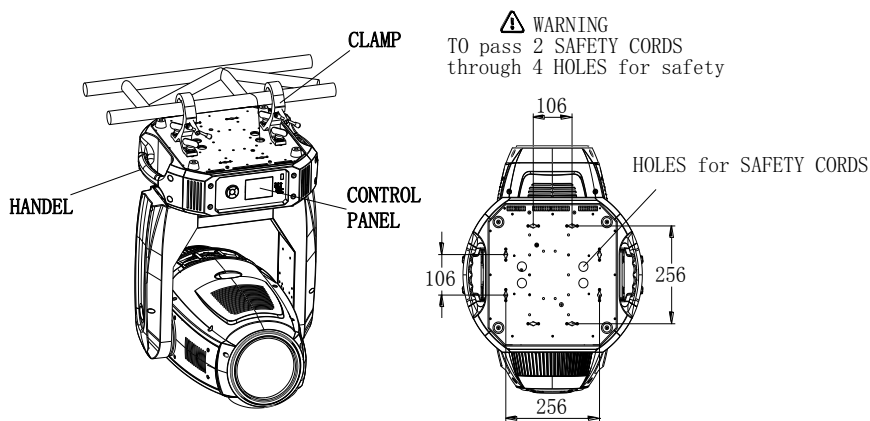| PROBLEM	ACTION
The projector doesn't switch on	➢ Check the fuse on the power socket. ➢ Check the lamp.
The lamp is on but the projector doesn't respond to the controller	➢ Make sure that the fixture's start address is right ➢ Replace or repair the XLR signal cable.
The projector functions intermittently	➢ Make sure the fan is working well or fans and their shields are not blocked
Beam appears dim, Low in brightness	➢ Make sure the lamp is within its lifespan ➢ Remove dust or grease from the lenses.
The project image appears to have a halo	➢ Carefully clean the 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
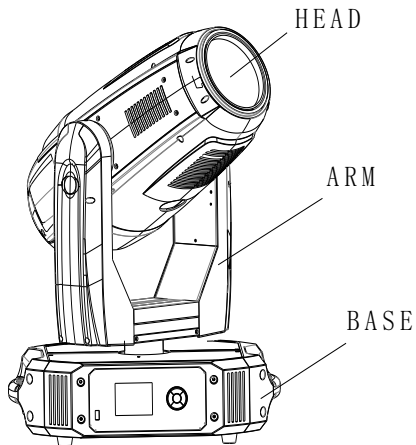
4. INSTALLATION

•RIGGING

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.

CLAMP

⚠ WARNING
TO pass 2 SAFETY CORDS
through 4 HOLES for safety

106

HOLES for SAFETY CORDS

HANDEL

CONTROL
PANEL

106

256

256

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.
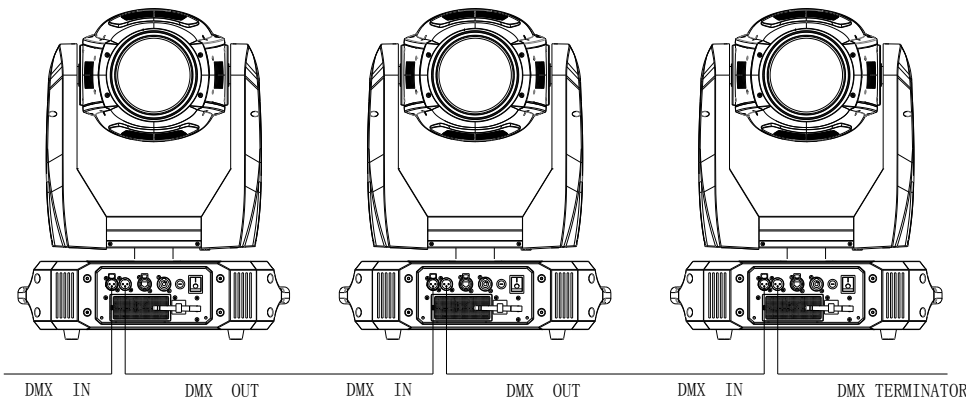
●**DMX CONTROL CONNECTION:**
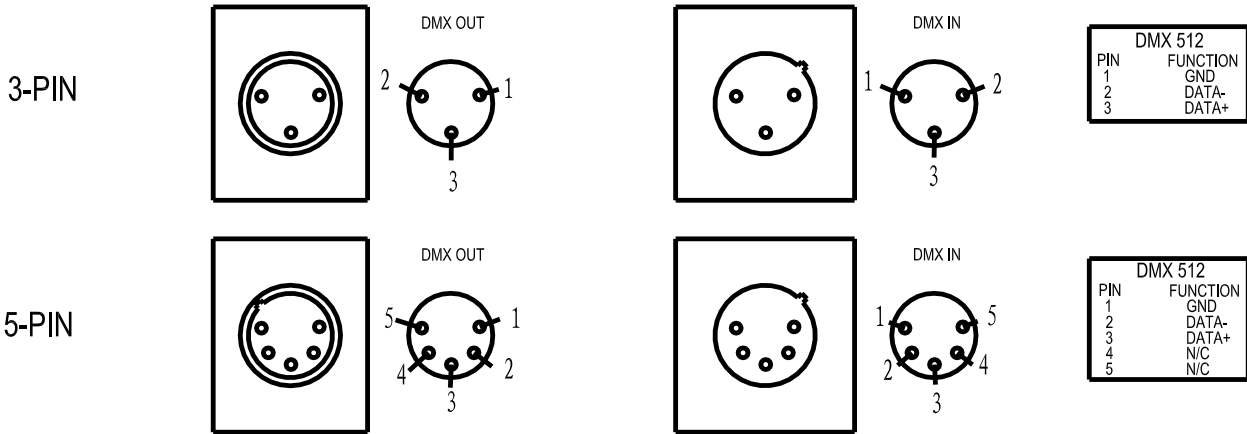
Connection between controller and projector and between one projector and another must be made with a twin-screened cable, with each wire having at least a 0.5mm in diameter. Connection to and from the projector is via cannon 5 pin (which are included with the projector) or 5 pin XLR plugs and sockets. 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 IN   DMX OUT   DMX IN   DMX OUT   DMX IN   DMX TERMINATOR

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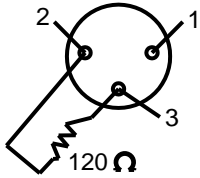
DMX TERMINATOR
CONNECTION
Connect a 120Ω(OHM) resistor across pins 2 and 3 in an XLR plug and insert into the DMX out socket on the last unit in the chain.

•ALIGNMENT/INSTALLATION/REPLACEMENT OF A LAMP

Before installation/replacement/alignment of a lamp, disconnect the unit from the power and let it cool first.

Lock Tilt in the figure below and open the lamp cover after its 4 screws are loosened.
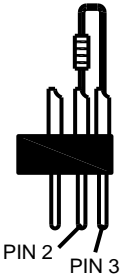
After removal of the lamp cover, turn the lamp anti-clockwise and take it out of the ceramic stand..

Insert a new lamp. Note: while placing a new lamp, do not touch the burner of the lamp with bare hands, otherwise the light output will be compromised.

Fasten the 4 fast-fit screws after the lamp cover is on

Important: The unit uses high voltage discharge lamp with external igniter(⚠E). While using the lamp, please carefully read "INSTRUCTIONS" packed with the lamp.

BACK COVER

4 FAST-FIT SCREWS
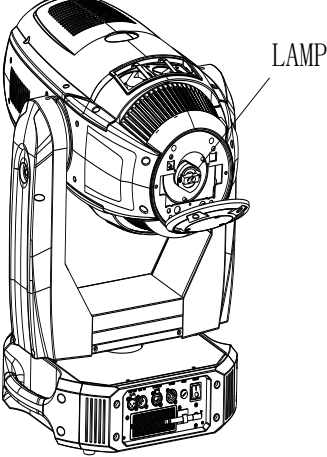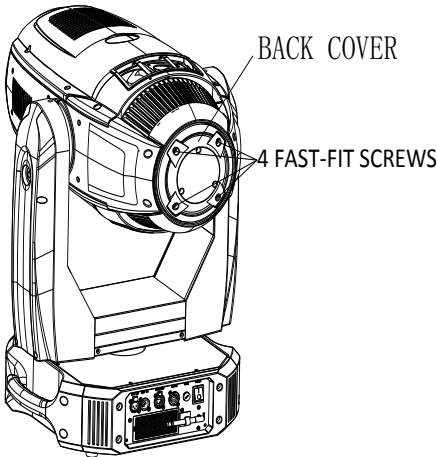
LAMP

•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
•GOBO REPLACEMENT

ROTATING GOBO WHEEL 2
EFFECT WHEEL
FRAMING MODULE
ROTATING GOBO WHEEL 1
COLOUR WHEEL
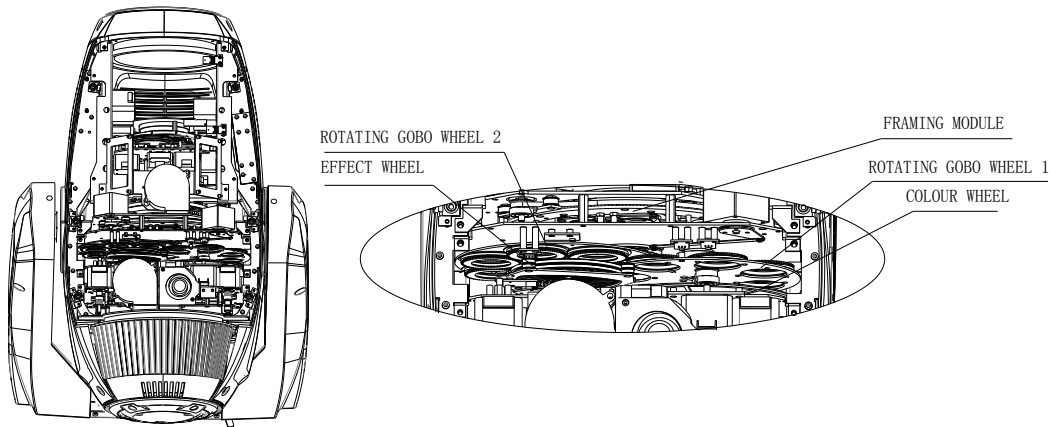
Lock the tilt and loosen the 6 fast-fit screws on the upper cover ,After removing the cover, you will see the structures as the figure below.

Before replacing a gobo on the fixed gobo wheel, use your finger to remove the spring tightening it and take the old one out with due care. At last put the new into the wheel.

To replace a gobo on the rotating gobo wheel: take the rotator from the wheel, take the gobo out from the rotator by removing the tightening spring. Put the new gobo back to the rotator, then tighten it with the spring. Please ensure the spring is in the narrow location of the rotator, which is the internal ring of it and flatten it. At last, pull up the spring strip using proper tool and put the rotator back to the wheel with the assistance by another hand.

Note: Do not touch the glass gobo with bare hand. Place clean and soft paper or cloth between hand and glass gobos.

Tighten 6 fast-fit screws after the cover is on. Unlock the tilt.

DANGER!

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

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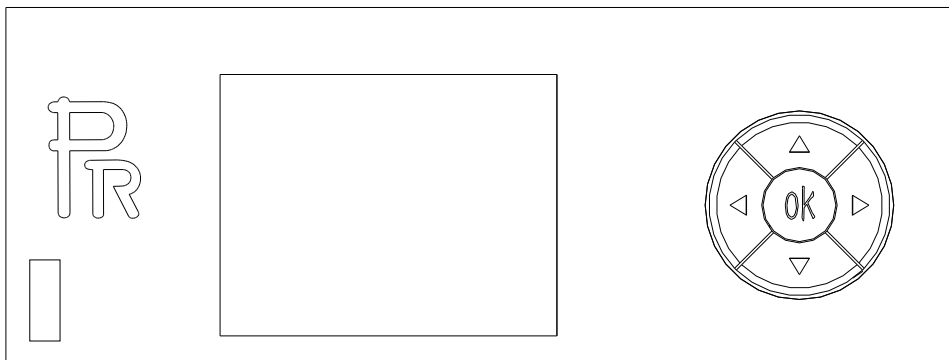
The projector configuration can be set conveniently via push buttons and color touch screen.

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 6th 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 2nd,3rd and 4th level of menus, the ◀ key is for ESCAPE, but ▶ key won't work, and OK key is used for ENTER. Press OK 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 39 channels, so set the No. 1 projector's address 001, No. 2 projector's address 040, No. 3 projector's address 079,No. 4 projector's address 118, and so on.

Switch on the Projector . Press OK 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 2nd 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 OK 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 Settigns , 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 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

MASTER   SLAVE   SLAVE

DMX IN   DMX OUT   DMX IN   DMX OUT   DMX IN   DMX TERMINATOR
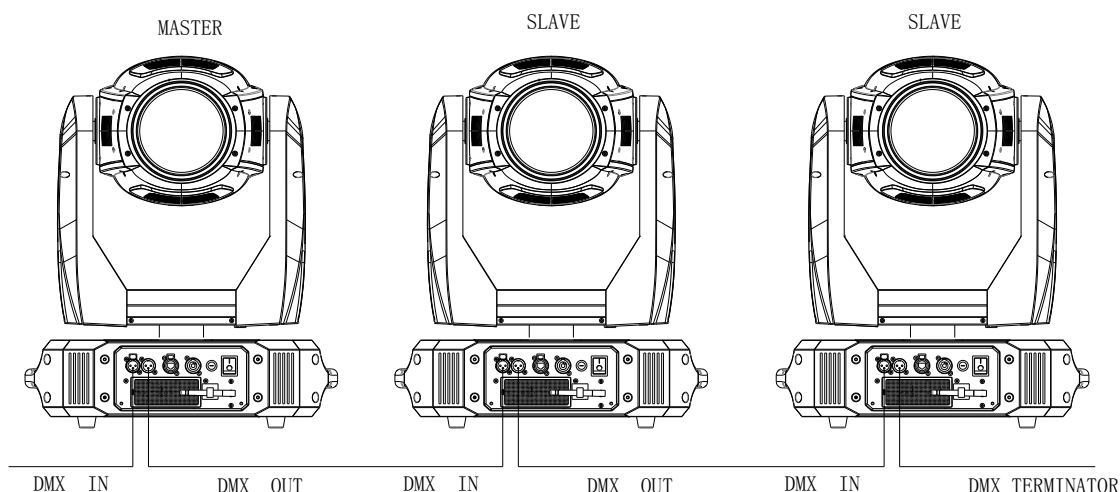
•FIRMWARE UPGRADE VIA USB INTERFACE

Copy the .PRS file for upgrading to U disk and plug it into USB interface. The upgrading file name or its file folder can be seen via the USB firmware upgrading interface under menu SERVICE. Select the desired PRS file and tap the upgrading menu, then the system will show Please Waiting…, which means the file is being copied into the system. After that, the Bootloader interface will be entered into and the countdown 10s appear. Within 10s, if UP and DOWN keys are pressed at the same time, the system enters into firmware upgrade interface. During this process, the power supply mustn't be interrupted. If none key is pressed within 10s, the firmware upgrade interface won't be entered into.

6. OPERATION MENU

1st LEVEL	2nd LEVEL	3rd LEVEL	4th LEVEL	5th LEVEL
Address	DMX Address	1-512		
	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?		
	Pan&Tilt Reset	Really Reset?		
	Colour System Reset	Really Reset?		
	Gobo Reset	Really Reset?		
	Dimmer/Strobe reset	Really Reset?		
	Zo.Fo.Fr.Pr. Reset	Really Reset?		
	Other Reset	Really Reset?		
Config Settings	DMX Channel Mode	Short Mode		
		Standard Mode		
		Extended Mode		
		View Selected Mode		
	Lamp Control	Lamp Control	OFF/ ON	
		On By Power On	OFF/ ON	
		Control By DMX	OFF/ ON	
		Lamp Power	1500/1700 1500/ 1700	
	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 Mode	Off After Delay	
			On Always	
	Display Config	Display Invert	Invert OFF	
			Invert ON	
			Invert Auto	
		Language Setting	English	
			Chinese	
		Touch Calibration	Input Password 123	
	Temperature Unit	Celsius Degree		
		Fahrenheit Degree		
	Un-Link Wireless	Really Un-Link?		
	Defaults	Restore Defaults?		
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	
		Iris Invert	OFF/ ON	
		Zoom Invert	OFF/ ON	
		CMY Invert	OFF/ ON	
		CTO Invert	OFF/ ON	
	Dimmer Curve	Linear/ Square Law		
	Defaults	Restore Defaults?		
Information	View DMX Values			
	Lamp Hours	Reset Lamp Hours		
	Total Hours			
	Temperature	Display Board XX℃/F		
		Pan and Tilt XX℃/F		
		Driver Board 1 XX℃/F		
		Driver Board 2 XX℃/F		
		Driver Board 3 XX℃/F		
		Driver Board 4XX℃/F		
		Head Sensor XX℃/F		
	Software Version	Display Board	System= XXX Boot =XXX	
		Pan and Tilt	System= XXX Boot =XXX	
		Driver Board 1	System= XXX Boot =XXX	
		Driver Board 2	System= XXX Boot =XXX	
		Driver Board 3	System= XXX Boot =XXX	
		Driver Board 4	System= XXX Boot =XXX	
	Electronic SN	Electronic SN= ***********		

	RDM Device Label	RDM Device Label ANSI E1.20 RDM Version X.X		
	Fan Status			
	XY Encoder	X encoder 0000		
		Y encoder 0000		
Service	Manual Effect Control	Strobe XXX		
		Dimmer XXX		
		…		
	USB Update Software			
	Factory Test			
Operation Mode	DMX Mode	Change Operation Mode?		
	Master Mode	Preset Memory	Change Operation Mode?	
		User Memory 1	Change Operation Mode?	
		User Memory 2	Change Operation Mode?	
	Stand-Alone Mode	Preset Memory	Change Operation Mode?	
		User Memory 1	Change Operation Mode?	
		User Memory 2	Change Operation Mode?	
	Static Scene	Change Operation Mode?		
User Memories	Edit User Memory	Edit User Memory 1 / Edit User Memory 2	Scene XX （1~200 Scenes）	Strobe XXX
				Dimmer XXX
				…
				Delay Time XXX
				Delay Unit
				Link To Step XXX
		Edit Static Scene	Strobe XXX	
			Dimmer 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

7.DMX PROTOCOL

Basic mode	Standard mode	Extended mode	Function Description	Decimal Low	Decimal High
			Strobe		
			Close(Lamp Switches to 1500 watt mode after shutter is closed for 5 seconds)	0	10
1	1	1	Open	11	25
			Strobe speed from slow to fast	26	225
			Macro(Random strobe speed slow to fast)	226	246
			Open	247	255
			Dimmer		
2	2	2	Close	0	0
			Dimmer from dark to light (0-100%)	1	255
	3	3	**Dimmer Fine**		
			Fine dimmer	0	255

3	4	4	**CMY Macro**		
			The following functions can be used after CMY,CTO, Color Wheel1 and Color Wheel2 channels are disabled		
			No Function	0	7
			Colour Macro 1	8	9
			Colour Macro 2	10	11
			Colour Macro 3	12	13
			Colour Macro 4	14	15
			Colour Macro 5	16	17
			Colour Macro 6	18	19
			Colour Macro 7	20	21
			Colour Macro 8	22	23
			Colour Macro 9	24	25
			Colour Macro 10	26	27
			Colour Macro 11	28	29
			Colour Macro 12	30	31
			Colour Macro 13	32	33
			Colour Macro 14	34	35
			Colour Macro 15	36	37
			Colour Macro 16	38	39
			Colour Macro 17	40	41
			Colour Macro 18	42	43
			Colour Macro 19	44	45
			Colour Macro 20	46	47
			Colour Macro 21	48	49
			Colour Macro 22	50	51
			Colour Macro 23	52	53
			Colour Macro 24	54	55
			Colour Macro 25	56	57
			Colour Macro 26	58	59
			Colour Macro 27	60	61
			Colour Macro 28	62	63
			Colour Macro 29	64	65
			Colour Macro 30	66	67
			LEE colour swatches LEE		
			LEE 4 (Medium Bastard Amber)	68	69
			LEE 10 (Medium Yellow)	70	71
			LEE 19 (Fire)	72	73
			LEE 26 (Bright Red)	74	75
			LEE 58 (Lavender)	76	77
			LEE 68 (Sky Blue)	78	79
			LEE 71 (Tokyo Blue)	80	81
			LEE 79 (Just Blue)	82	83
			LEE 88 (Lime Green)	84	85

			LEE 90 (Dark Yellow Green)	86	87
			LEE 100 (Spring Yellow)	88	89
			LEE 101 (Yellow)	90	91
			LEE 102 (Light Amber)	92	93
			LEE 103 (Straw)	94	95
			Lee 104 (Deep Amber)	96	97
			LEE 105 (Orange)	98	99
			LEE 106 (Primary Red)	100	101
			LEE 111 (Dark Pink)	102	103
			LEE 115 (Peacock Blue)	104	105
			LEE 116 (Medium Blue-Green)	106	107
			LEE 117 (Steel Blue)	108	109
			LEE 118 (Light Blue)	110	111
			LEE 119 (Dark Blue)	112	113
			LEE 120 (Deep Blue)	114	115
			LEE 121 (LEE Green)	116	117
			LEE 128 (Bright Pink)	118	119
			LEE 131 (Marine Blue)	120	121
			LEE 132 (Medium Blue)	122	123
			LEE 134 (Golden Amber)	124	125
			LEE 135 (Deep Golden Amber)	126	127
			LEE 136 (Pale Lavender)	128	129
			LEE 137 (Special Lavender)	130	131
			LEE 138 (Pale Green)	132	133
			LEE 139 (Primary Green)	134	135
			LEE 141 (Bright Blue)	136	137
			LEE 147 (Apricot)	138	139
			LEE 148 (Bright Rose)	140	141
			LEE 152 (Pale Gold)	142	143
			LEE 154 (Pale Rose)	144	145
			LEE 157 (Pink)	146	147
			LEE 158 (Deep Orange)	148	149
			LEE 162 (Bastard Amber)	150	151
			LEE 164 (Flame Red)	152	153
			LEE 165 (Daylight Blue)	154	155
			LEE 169 (Lilac Tint)	156	157
			LEE 170 (Deep Lavender)	158	159
			LEE 172 (Lagoon Blue)	160	161
			LEE 179 (Chrome Orange)	162	163
			LEE 180 (Dark Lavender)	164	165
			LEE 181 (Congo Blue)	166	167
			LEE 197 (Alice Blue)	168	169
			LEE 201 (Full C.T. Blue)	170	171
			LEE 202 (Half C.T. Blue)	172	173

			LEE 203 (Quarter C.T. Blue)	174	175
			LEE 204 (Full C.T. Orange)	176	177
			LEE 205 (Half C.T. Orange)	178	179
			LEE 206 (Quarter C.T. Orange)	180	181
			LEE 247 (LEE Minus Green)	182	183
			LEE 248 (Half Minus Green)	184	185
			LEE 281 (Three Quarter C.T. Blue)	186	187
			LEE 285 (Three Quarter C.T. Orange)	188	189
			LEE 352 (Glacier Blue)	190	191
			LEE 353 (Lighter Blue)	192	193
			LEE 715 (Cabana Blue)	194	195
			LEE 778 (Millennium Gold)	196	197
			LEE 793 (Vanity Fair)	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
			Colour Wheel 1		
			Continual positioning		
			index 0-360 °	0	63
			positioning	64	67
			White/colour 1(Red)	68	71
			Colour 1(Red)	72	75
8	9	13	Colour 1(Red)/colour 2(Yellow)	76	79
			Colour 2(Yellow)	80	83
			Colour 2(Yellow)/colour 3(Blue)	84	87
			Colour 3(Blue)	88	91
			Colour 3(Blue)/colour 4(Green)	92	95
			Colour 4(Green)	96	99
			Colour 4(Green)/colour 5(Pink)	100	103
			Colour 5(Pink)	104	107

			Colour 5(Pink)/colour 6(Orange)	108	111
			Colour 6(Orange)	112	115
			Colour 6(Orange)/ Colour 7(UV light)	116	119
			Colour 7(UV light)	120	123
			Colour 7(UV light)/white	124	127
			Rainbow rotation speed from slow to fast	128	191
			Rainbow reverse rotation speed from slow to fast	192	255
	10	14	**Colour Wheel 1 Fine**		
			Colour Continual positioning in 16 Bit precision	0	255
			Colour Wheel 2		
			Continual positioning		
			index 0-360 °	0	63
			positioning		
			White/colour 1 (Deep Red)	64	67
			Colour 1(Deep Red)	68	71
			Colour 1(Deep Red)/colour 2(Deep Magenta)	72	75
			Colour 2(Deep Magenta)	76	79
			Colour 2(Deep Magenta)/colour 3(Light Magenta)	80	83
			Colour 3(Light Magenta)	84	87
9	11	15	Colour 3(Light Magenta)/colour 4(Light Yellow)	88	91
			Colour 4(Light Yellow)	92	95
			Colour 4(Light Yellow)/colour 5(Light Green)	96	99
			Colour 5(Light Green)	100	103
			Colour 5(Light Green)/colour 6(Deep Cyan)	104	107
			Colour 6(Deep Cyan)	108	111
			Colour 6(Deep Cyan)/ Colour 7(Light Cyan)	112	115
			Colour 7(Light Cyan)	116	119
			Colour 7(Light Cyan)/white	120	123
			white	124	127
			Rainbow rotation speed from slow to fast	128	191
			Rainbow reverse rotation speed from slow to fast	192	255
	12	16	**Colour Wheel 2 Fine**		
			Colour Continual positioning in 16 Bit precision	0	255
10	13	17	**Iris**		
			Iris from large to small (0-100%)	0	255
		18	**Iris Fine**		
			Iris in 16 Bit precision	0	255
			Iris Macro		
			Iris macro function is disabled	0	10
			Macro function 1: Iris from large to small change with speed from slow to fast	11	74
11	14	19	Macro function 2: Iris from small to large change with speed from slow to fast	75	138
			Macro function 3: Iris retractable speed from slow to fast	139	202
			Macro function 4(function1 random)	203	210
			Macro function 5(function2 random)	211	218

			Macro function 6(function3 random)	219	226
			Full-open	227	255
12	15	20	**Rotating Gobo Wheel 1**		
			white	0	31
			Gobo1	32	47
			Gobo 2	48	63
			Gobo 3	64	79
			Gobo 4	80	95
			Gobo 5	96	111
			Gobo 6	112	127
			Rotation speed from slow to fast	128	143
			Reverse rotation from slow to fast	144	159
			Gobo 1 shake speed from slow to fast	160	175
			Gobo 2 shake speed from slow to fast	176	191
			Gobo 3 shake speed from slow to fast	192	207
			Gobo 4 shake speed from slow to fast	208	223
			Gobo 5 shake speed from slow to fast	224	239
			Gobo 6 shake speed from slow to fast	240	255
13	16	21	**Gobo rotation** 1		
			Index 0-360 °	0	127
			Stop rotating	128	128
			Rotation speed from slow to fast	129	188
			Stop rotating	189	195
			Reverse rotation speed from slow to fast	196	255
	17	22	**Gobo rotation 1　Fine**		
			Gobo rotation in 16 bit precision	0	255
14	18	23	**Rotating Gobo Wheel 2**		
			white	0	31
			Gobo1	32	47
			Gobo 2	48	63
			Gobo 3	64	79
			Gobo 4	80	95
			Gobo 5	96	111
			Gobo 6	112	127
			Rotation speed from slow to fast	128	143
			Reverse rotation from slow to fast	144	159
			Gobo 1 shake speed from slow to fast	160	175
			Gobo 2 shake speed from slow to fast	176	191
			Gobo 3 shake speed from slow to fast	192	207
			Gobo 4 shake speed from slow to fast	208	223
			Gobo 5 shake speed from slow to fast	224	239
			Gobo 6 shake speed from slow to fast	240	255
15	19	24	**Gobo rotation 2**		
			Index 0-360 °	0	127

			Stop rotating	128	128
			Rotation speed from slow to fast	129	188
			Stop rotating	189	195
			Reverse rotation speed from slow to fast	196	255
	20	**25**	**Gobo rotation 2　Fine**		
			Gobo rotation in 16 bit precision	0	255
16	**21**	**26**	**Prism1**		
			Open position (hole)	0	16
			Prism	17	255
17	**22**	**27**	**Prism1 rotation**		
			Prism index	0	127
			Stop rotating	128	128
			Rotation speed from slow to fast	129	191
			Stop rotating	192	192
			Reverse rotation speed from slow to fast	193	255
18	**23**	**28**	**Prism2**		
			Open position (hole)	0	16
			Prism	17	255
19	**24**	**29**	**Prism2 rotation**		
			Prism index	0	127
			Stop rotating	128	128
			Rotation speed from slow to fast	129	191
			Stop rotating	192	192
			Reverse rotation speed from slow to fast	193	255
20	**25**	**30**	**Dual Effect Wheel**		
			No effect wheel	0	19
			Proportional indexing	20	127
			Ramping from open to full position(max--->min.speed)	128	170
			Ramping from open to half position(max--->min.speed)	171	213
			Ramp. from half position to full position(max--->min.speed)	214	255
21	**26**	**31**	**Dual Effect Wheel 1 rotation**		
			No rotation	0	0
			Forwards rotation from slow to fast	1	127
			No rotation	128	128
			Backwards rotation from slow to fast	129	255
22	**27**	**32**	**Dual Effect Wheel 2 rotation**		
			No rotation	0	0
			Forwards rotation from fast to slow	1	127
			No rotation	128	128
			Backwards rotation from slow to fast	129	255
23	**28**	**33**	**Light Frost**		
			Light Frost from 0% to 100%	0	255
24	**29**	**34**	**Heavy Frost**		
			Heavy Frost from 0% to 100%	0	255

25	**30**	**35**	**Autofocus (Not realized yet)**		
			While only Iris, Rotating Gobo Wheel 1 and Rotating Gobo Wheel 2 are in use, the projector has automatic focus function at some distance. Use "Autofocus Calibrations" channel (26/31/36) to focus the image. Priority: Gobo Wheel 2>Gobo Wheel 1> IRIS		
			The following function can be realized after the focus channel (27/32/37) is disabled.		
			Autofocus Off	0	15
			Autofocus for 5M	16	75
			Autofocus for 10M	76	135
			Autofocus for 15M	136	195
			Autofocus for 20M	196	255
26	**31**	**36**	**Autofocus Calibrations**		
			focus calibrations up	0	127
			focus calibrations down	128	255
27	**32**	**37**	**Focus**		
			Linearly focusing	0	255
		38	**Focus Fine**		
			Focus in 16 precision	0	255
28	**33**	**39**	**Zoom**		
			Linearly zooming	0	255
		40	**Zoom Fine**		
			Zoom in 16 Bit precision	0	255
29	**34**	**41**	**Pan**		
			Pan movement	0	255
	35	**42**	**Pan Fine**		
			Pan movement in 16 bit precision	0	255
30	**36**	**43**	**Tilt**		
			Tilt movement	0	255
	37	**44**	**Tilt fine**		
			Tilt movement 16 bit precision	0	255
31	**38**	**45**	**Pan/Tilt speed , Pan/Tilt time**		
			fast Speed Mode	0	1
			Pan &Tilt speed from fast to slow	2	255
32	**39**	**46**	**Power/Special functions**		
			No function:	0	4
			Reserved	5	19
			1.To activate following functions, stay in DMX value for at least 5 s		
			2.The lamp is allowed to be turned off 5 minutes after the lamp is on. And the lamp is allowed to be turned on 5 minutes after the lamp is off.		
			3. Before the lamp on or lamp off, set "control by DMX"/Lamp Control/Config Setting s as ON via control panel.		
			Graphic display On	20	24
			Graphic display Off	25	29
			Reserved	30	34
			Lamp power 1500W	35	39

			Lamp power 1700W	40	44
			Reserved	45	89
			Pan/Tilt speed mode	90	94
			Pan/Tilt time mode	95	99
			Reserved	100	129
			Lamp On	130	139
			Pan/Tilt reset	140	149
			Colour system reset	150	159
			Gobo wheels reset	160	169
			Dimmer/Shutter reset	170	179
			Zoom/focus/frost/prism reset	180	189
			Iris/dual effect wheel reset	190	199
			Total reset	200	209
			Reserved	210	229
			Lamp Off	230	239
			Reserved	240	255

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. ICONS OF THE TROUCH SCREEN

	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
Effect Wheel	Timeout	Check if wiring, positioning parts and motors are normal
Effect Wheel Rotation	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 he 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

Input Voltages: 208V~240V AC，50/60Hz

Input Power :2100W@220V

MAX. Current: AC 10 A

Power Factor：PF >90%

LAMP   SPECIFICATIONS:

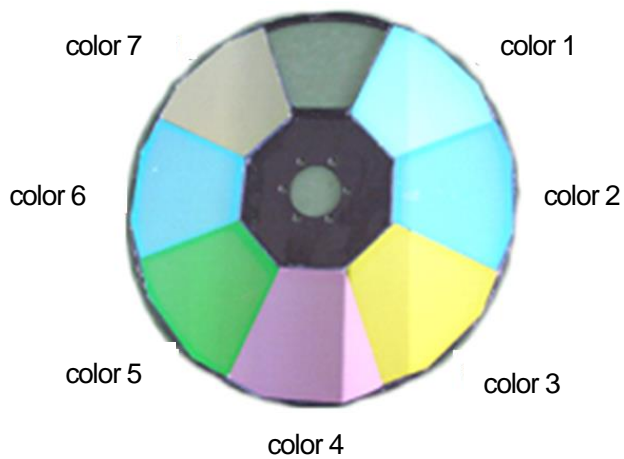|	
Lamp	**lok-it! 1700/PS**
Color Temperature	5600K
Ceramic Stand	Single-ended
Manufacturers Rated Lamp Life	750hours

COLORS:

CMY linear color mixing system with macros

2Color wheels: 7colors+ Open, half-color effect, bi-directional rainbow effect with variable speeds,
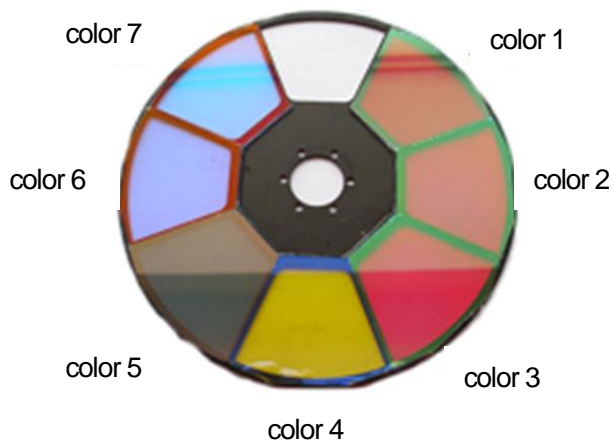
Stepping/linear color changing

Color Wheel 1

No.	Code No.	Colors	Wave Length
1	090070041A	Red	$\lambda=620\pm5nm$
2	090070044A	Yellow	$\lambda=510/545\pm5nm$
3	090070043A	Blue	$\lambda=500\pm5nm$
4	090070042A	Green	$\lambda=540\pm5nm$
5	090070045A	Pink	$\lambda=490/585\pm5nm$
6	090070046A	Orange	$\lambda=600\pm5nm$
7	090070047A	UV light	$\lambda=460/690\pm5nm$

Color Wheel2

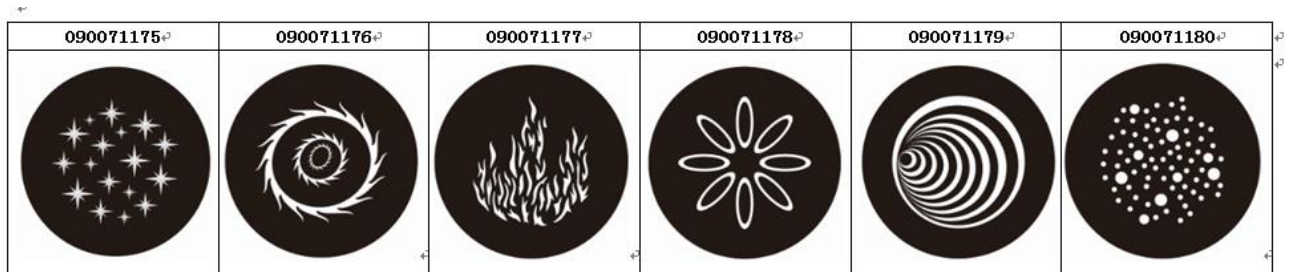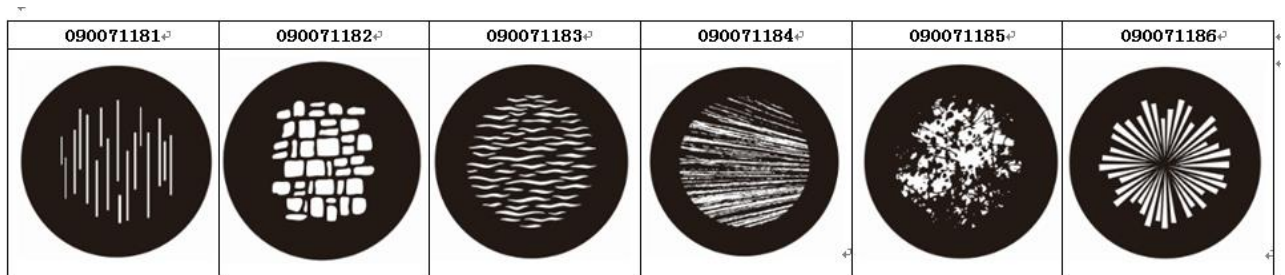| No.	Code No.	Colors	Wave Length
1	090070034A	Deep Red	$\lambda=645\pm5nm$
2	090070037A	Deep Magenta	$\lambda=450/630\pm5nm$
3	090070040A	Light Magenta	$\lambda=445/620\pm5nm$
4	090070039A	Light Yellow	$\lambda=520\pm5nm$
5	090070035A	Light Green	$\lambda=485/525\pm5nm$
6	090070036A	Deep Cyan	$\lambda=575\pm5nm$
7	090070038A	Light Cyan	$\lambda=590\pm5nm$

CTO:

0-100% Linear CTO system

GOBOS:

2 Rotating gobo wheels, each   6 Interchangeable Gobos +Open, glass gobos or metal gobos

Bi-directionally rotatable, scrolling and shakable at variable speeds, indexing

Rotating gobo wheel1

090071175	090071176	090071177	090071178	090071179	090071180

Rotating gobo wheel2

090071181	090071182	090071183	090071184	090071185	090071186

Gobo size: 37.3mm

Gobo image size: 26mm

PRISM:

1pc of 6-facet circular prism+ 1 pc of 6-facet linear prism, bi-directional rotation with variable speeds, with indexing function;

FROST WHEEL:

2 frost wheels:1 heavy frost +1 light frost, linearly adjustable and both can overlap

EFFECT WHEEL:

Double effect wheels,   Each has independent and bi-directional rotation with variable speeds

FOCUS:

DMX linear Focus

DIMMER:

 0-100% Linearly adjustable

IRIS:

5-100%linear adjustment with macro

STROBE

Double blade strobe, 0.3-25 F.P.S .

HEAD MOVEMENT:

Pan 540 °, Tilt 270 °with auto position correction

BEAM ANGLE:

Linear zoom 5 °~ 55 °with 16bit adjustment

CONTROL:

DMX512, 5 pin interfaces
RDM control protocol
32channels in basic mode, 39channels in standard mode , 46channels in extended mode
Self-test mode

OTHER FUNCTIONS:

Adjustable Pan & Tilt speeds

Lamp's and fixture's hours displayed

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

Input signal isolated

Modular Structure for easy maintenance

Ethernet interface

DMX512 wirless reciever

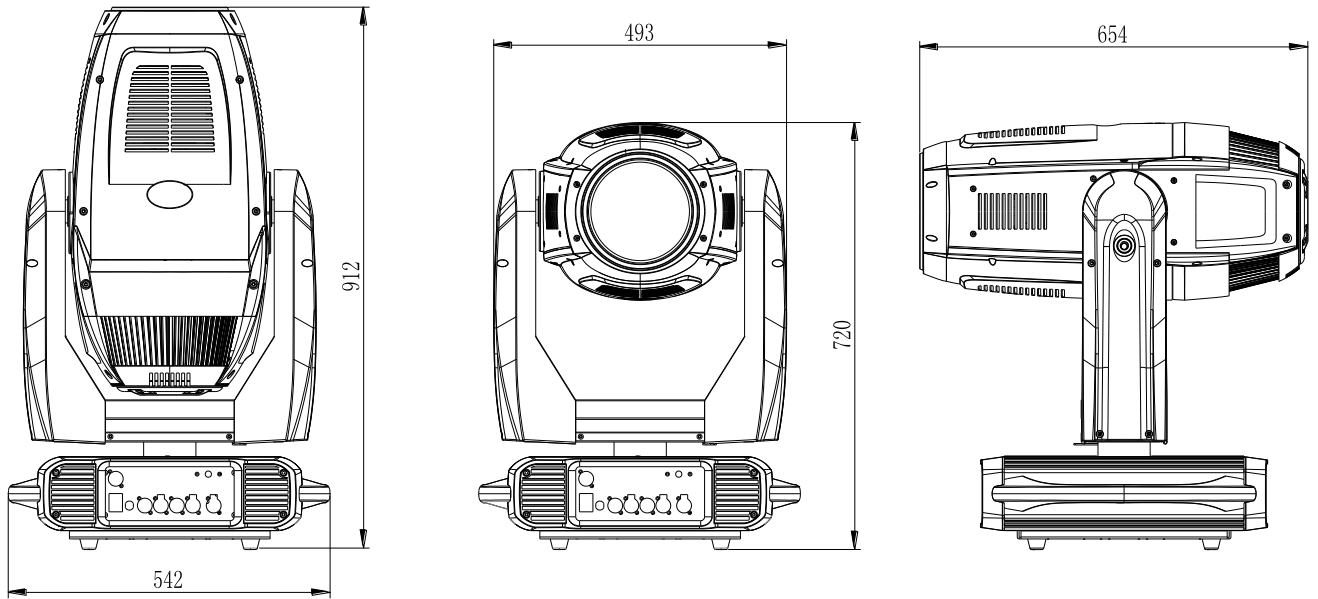Optional DMX512 Wireless Transmitter
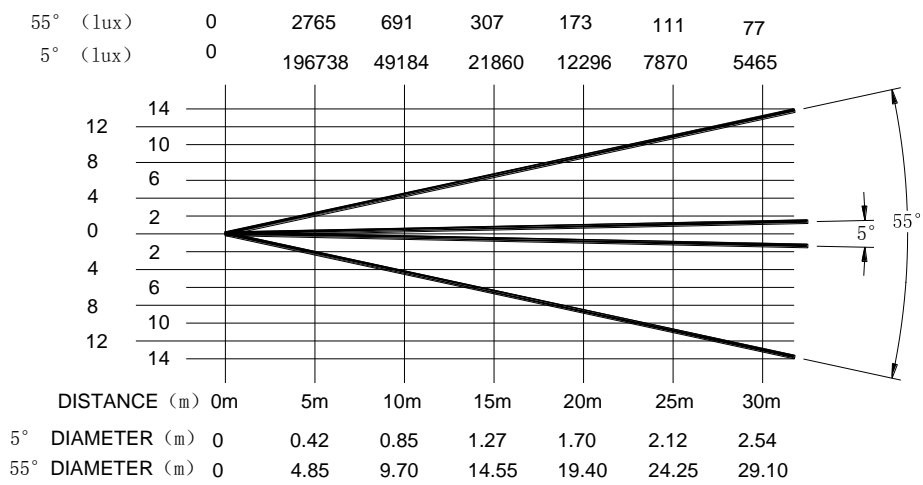
HOUSING:

High temperature ABS, IP20

WEIGHT: 52Kg

OPERATION TEMPERATURE:

Maximum ambient temperature: 40 ℃

SIZES:

912

542

493

720

654

LIGHT OUTPUT:

| 55° （lux） | 0 | 2765 | 691 | 307 | 173 | 111 | 77 |
| 5° （lux） | 0 | 196738 | 49184 | 21860 | 12296 | 7870 | 5465 |

5°

55°

DISTANCE（m）	0m	5m	10m	15m	20m	25m	30m
5° DIAMETER（m）	0	0.42	0.85	1.27	1.70	2.12	2.54
55° DIAMETER（m）	0	4.85	9.70	14.55	19.40	24.25	29.10

11. CIRCUIT DIAGRAM AND PCB CONNECTIONS
.CIRCUIT DIAGRAM

PR-2880

12. COMPONENT ORDER CODES

NAME	PART NO.	QUANTITY	REMARK

POWER SWITCH	192010136	1	S-350-24
POWER FILTER	193020008	1	20A 115/250VAC
THERMAL SWITCH	190010150	1	250V-16A
ELECTRONIC BALLAST	040070133	1	1700W ELECTRONIC BALLAST
IGNITER	040090066	1	IGNITER
LAMP	100050085	1	LOK-IT！1700W/PS OSRAM
PAN BELT	290151205	1	558-3M-11
TILT BELT	290151207	1	885-3M-12
PAN MOTOR	030040262	1	
TILT MOTOR		1	
COLOR WHEEL1 MOTOR	030040095A	1	
CTO MOTOR	0300400114A	1	
CMY MOTOR	0300400114A	3	
COLOR2 MOTOR	0300400023	1	
ROTATING GOBO WHEEL1 MOTOR	0300400095A	1	
GOBO ROTATION 1 MOTOR	030040084	1	
IRIS MOTOR	0300400088	1	
STORE MOTOR	0300400095A	2	
DIMING MOTOR	030040186	2	
EFFECT WHEEL IN/OUT MOTOR	030040095A	1	
EFFECT WHEEL1 ROTATION MOTOR	030040219	1	
EFFECT WHEEL2 ROTATION MOTOR	030040220	1	
FOCUS MOTOR1	030040221	2	
FOCUS MOTOR2	030040095A	2	
ZOOM MOTOR	030040261	2	
PRISM1IN/OUT MOTOR	030040221	2	
PRISM2 IN/OUT MOTOR	030040224B	2	
FROST IN/OUT MOTOR	030040220	2	
ROTATING GOBO WHEEL2 MOTOR	030040132A	1	
GOBO ROTATION 2 MOTOR	030040132A	1	
BASE FAN	030060104	5	
LAMP FAN 1	030060107	1	
LAMP FAN2	030060107	1	
CMYFAN	030060107	1	
HEAD FAN	030060106	2	
STROBE FAN	030060102	1	
GOBO FAN	030060106	1	
PAN AND TILT BOARD	230060604	1	
DRIVER BOARD 1	230060590	1	
DRIVER BOARD 2	230060672	1	
DRIVER BOARD 3	230060673	1	
DRIVER BOARD 4	230060589	1	
SCREEN	230060625	1	
POWER BOARD	230060488	1	

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