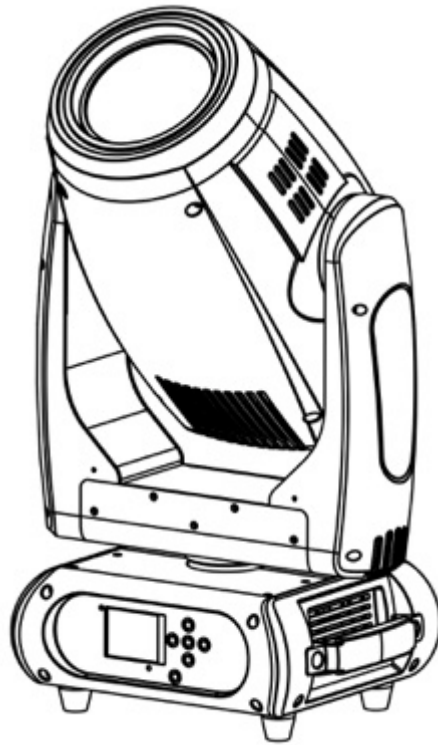# *BSL GOLIATH*
USERS GUIDE

 C E

1. Product Introduction:

1.1 Before unpack the fixture, pls make sure that the packing is in good condition, following items will be found in the box:

-The fixture

-This users guide

-3m DMX cable

-1.5m power cable with powercon

-Omega bracket for hanging installation

-Safety chain

1.2 Specification

Source
- Light source: Osram Sirius HRI 280W discharge lamp
- Led life: 2.000 hours
- Luminous Flux: 12000lumen, 325000lux@10m
- Control: Remote on/off via DMX
- Ballast: switching mode power supply

Optical System
- Beam angle: 2°-10° beam,   5.5°-23°spot

X/Y
- Pan: 630° (4.0 sec) or 540°(3.58 sec), Tilt: 265° (2.8 sec)
- 16-bit resolution
- Auto repositioning

Colors
- 13+open, interchangeable, indexable and bidirectional rainbow effect
- New color bounce effect

Gobos
- Rotating gobo wheel: 9(galss)+open
- Static gobo wheel:14+open
- Real indexable and gobo shaking
- Distinctive gobo animation effect

Features
- DMX channels: 20/24/14/16
- Color wheel: 13+1 colors
- Rotating gobo wheel: 9+1 gobos
- Static gobo wheel:14+open
- Zoom: 2°-10° beam,   5.5°-23°spot
- Motorized focus
- Full range 0-100% dimmer
- Various strobe
- Frost 6-Linear+ facets prism
- RDM function to change DMX address, display flip, X/Y Reverse and so on
- RDM read voltage, current and power consumption of lamp
- Software upgrade via DMX
- Hibernation when lost DMX for preset time
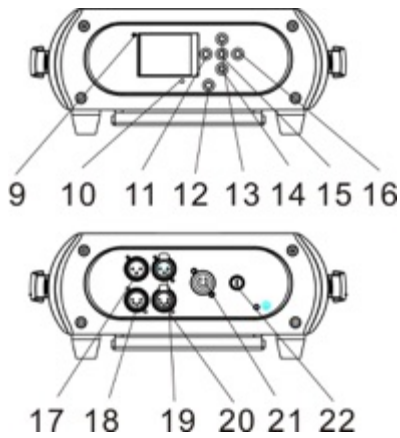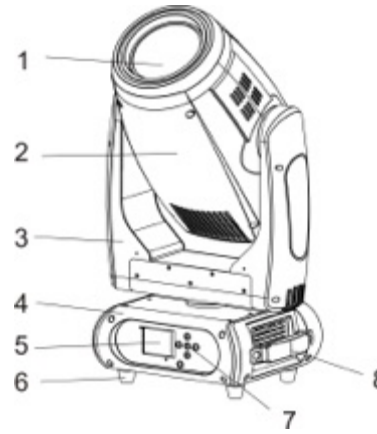- Indicate temperature info of base, arm and lamp

- Fan speed auto change according to temperature

Display
- 2.4inch super nice LCD display with friendly English/ Chinese/French/Spanish menu
- Auto lock
- Flip
- Back-up communicating IC

1.3 Description of the Device

1. Project lens
2. Head
3. Arm
4. Base
5. Display
6. Foot stand
7. Operation button
8. Handle

9. Wireless indicator
10. Mic
11. Left button
12. Battery indicator
13. Up button
14. Down button
15. Enter button
16. Right button
17. 3-pin DMX in
18. 3-pin DMX out
19. 5-pin DMX in
20. 5-pin DMX out
21. Powercon in
22. Fuse

1.4 Colors and Gobos
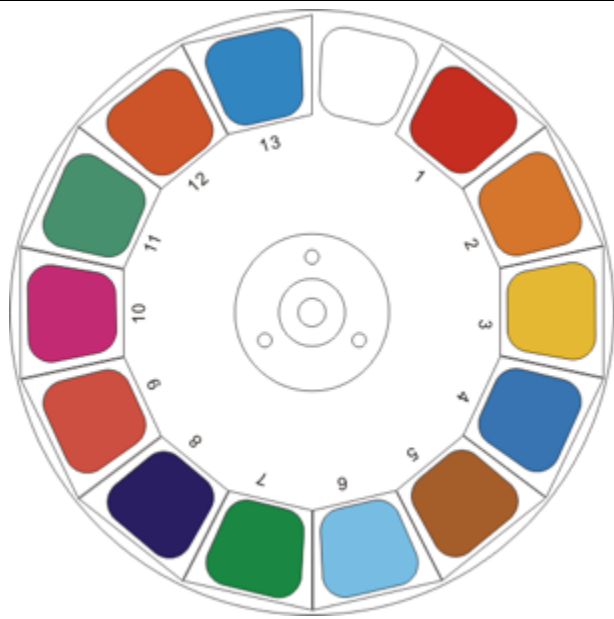
	Open	
1		Red
2		Orange
3		Yellow
4		Blue green
5		Amber
6		Light bule
7		Green
8		UV
9		Light red
10		Megenta
11		Dark green
12		Dark yellow
13		Blue

Static gobo wheel	Rotating gobo wheel (slot-in-out gobos)
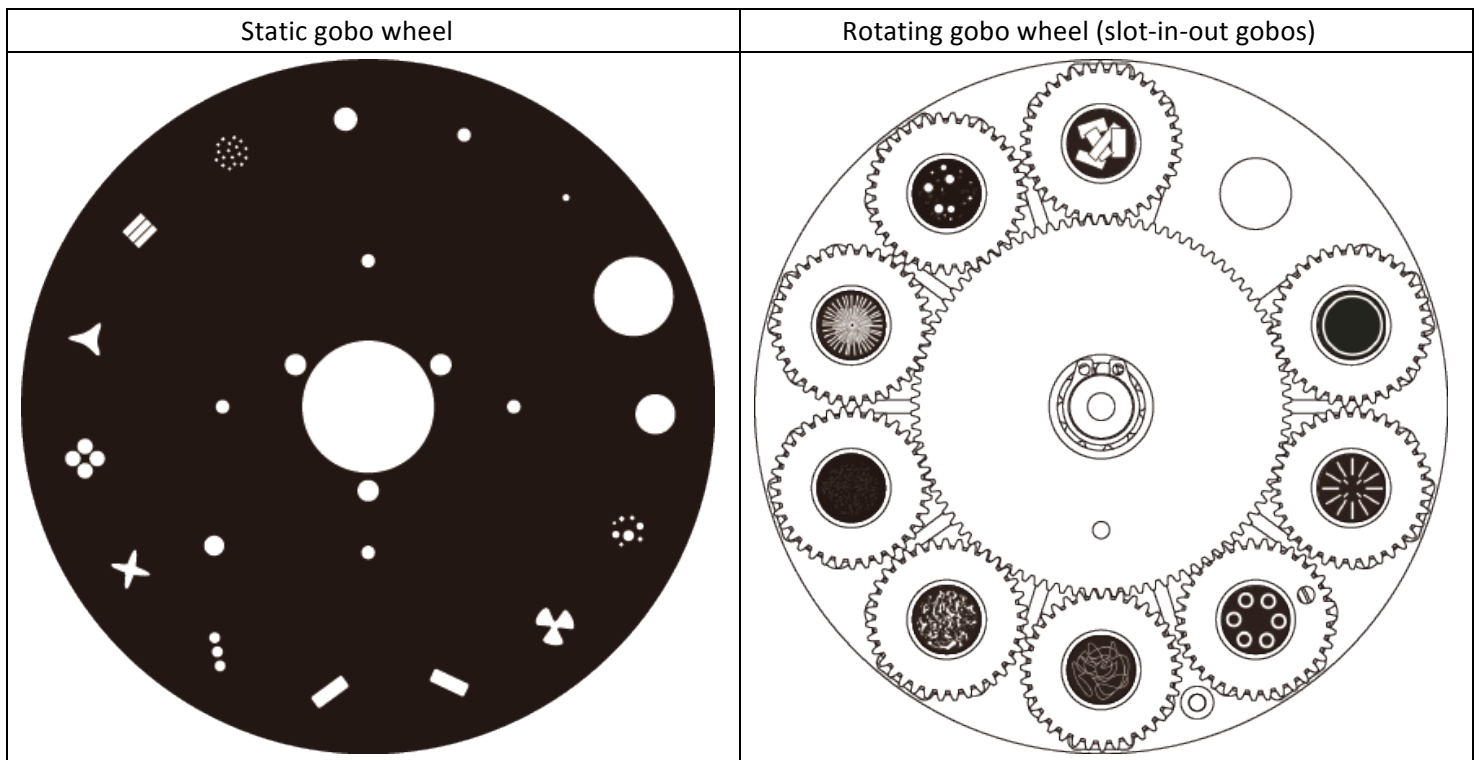
2. Safety and maintenance Information

2.1 Safety Info

⚠	Before operate this unit, please carefully read this users guide and keep if needed in future. It's necessary to respect following rules.
🗑	The disposal of the device after lifecycle could damage the environment, need to take it to special company for recycling or return to authorized dealer.
CE	The products referred to in this manual conform to the European Community Directives and are therefore marked with CE logo.
⚠	Keep this device away from children and unauthorized users, the manufacturer will not take responsibility for the damage due to any disregard of the information provided in this manual and wrong operation.
⚠	Before operate the device, pls make sure the fixture is in good housing, ensure pan and tilt can rotate in its complete range.
◁--0.5m ▯	Pls make sure minimal 0.5m distance need to kept between the fixture to any flammable material.
🔌	The device can only run with 100-240v voltage, 50/60Hz power, don't connect to any other wrong power. Disconnect the device from main power before open the shield or maintenance.
⌂	The device is designed only for indoor usage, pls keep it away from moisture. Do not expose the device under the sun or directly to any other lighting source.
⚠	Never look directly into the projecting lens when the fixture is power on, the light may trigger epileptic seizures in photosensitive persons or persons with epilepsy. Especially at beam effect, extreme caution and observance of these safety instructions is mandatory.
⚠	Don't put or install the device on a surface that subject to vibration or bumps.
Ta=45℃	The device is supposed to work in the temperate range -15° C and +45° C, do not use the device when the temperate exceed this range.

	The lens, shield need to be replaced when obviously broken, never use the device when the shield is not completed closed.
	Safety I class device, need to be earth connected.
	When the fixture is hanged overhead, the safety rope must be fixed to the bottom of the device to the appropriate fixing point.
	Always carry the device by the handles, do not take the head or arm directly for transportation.

2.2 Maintenance

2.2.1 Operation only allowed to qualified person, damages due to unprofessional operation or remove of any parts inside will not be considered in warranty service. There are no serviceable parts inside the device or package, service only leaves to authorized dealers.

2.2.3 Never allow the optical components contact with oil, fat or any other liquid.

2.2.4 A regular clearance of the device is needed for long-term usage, this is very helpful to maintain the lifetime and brightness need to use a soft and lint-free cloth to clean the optical system, fan and air flowing tunnel.

2.2.5. Trouble Shooting

Problems	Possible reasons	Checking or solutions
Device not power up	Powercon or power cable damaged	Change a good power cable to try
	Faulty power supply	Replace new power supply
Pan/Tilt error or vibrate	Faulty Pan/Tilt PCB	Replace PT001 PCB
	Faulty opto sensor	Replace opto sensor OP001
	Cable loosen	Check the cable connect to OP001
Lamp off	Temperature protection	Check the temperature from menu
	Fan not working	Check the fan speed info from menu
	Faulty Lamp	Replace new Lamp
	Dimmer and strobe set at 0	Set dimmer and strobe channel at 255
	Faulty power supply	Replace new power supply
Device not response to DMX	Faulty communication IC	Replace the IC with back-up one in the display PCB
	Faulty display PCB	Replace new display PCB
	Wrong DMX addressing	Check the address and setting
	Faulty DMX cable	Change to a good DMX cable

2.2.6 Replacement of the fuse

Need to replace with same type and rating, which originally installed in the device.

Step One: Unplug power cable from main power.

Step Two: Unscrew the fuse holder out of the housing with a screwdriver.

Step Three: Remove the broken fuse and replace with an exact same type of new fuse.

Step Four: Insert the fuse holder back to the housing and screw tight and reconnect power.

3. Installation
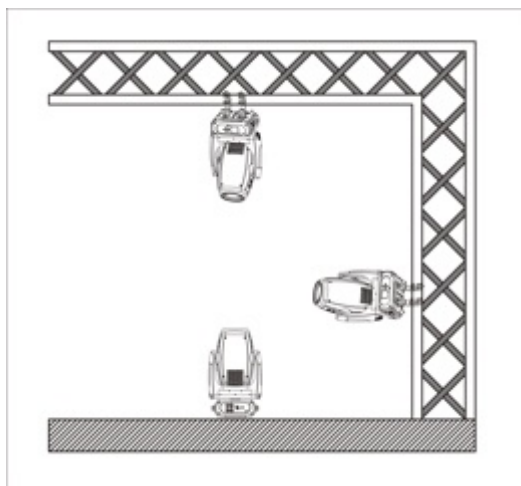
3.1 The device could be either put on a solid and even surface, or mounted upside down or sideways like left picture.

3.2 The mounting place must be sufficient stable and be able to support a weight of 10 times of the unit's weight. When the fixture is hanged, always additionally secure the device with the safety chain, fasten the safety rope at a suitable position so that the maximum fall of the projector will be 20 cm

3.3 How to do mounting installation.
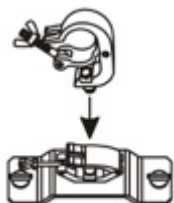
Step one: Installation the clamp onto the omega bracket;

Step two: Install the clamp and bracket on the bottom of panel, fasten the quick-locks;

Step three: Install the whole device onto appropriate truss and fasten the clamps, tight the safety rope with the truss or other fixing point at a suitable position that drop down distance not exceed 20 cm.

4. Control menu

4.1 Meaning of the icon in menu

CONNECT	LIGHT	INFOMATION	SET	PROGRAM

4.2 Menu tree

Default setting shadowed. Mark with ①can be basic reloaded, ② be program reloaded, ③can be private reloaded.

Connect	DMX Address①	XXX	DMX address setting

Light	Turn On/Off	ON/OFF		Turn On the lamp
	Automatic	ON/OFF		Lamp On/off when power on
	DMX Control	ON/OFF		DMX control or not
	Max Temperature①	80~139℃, 125℃ /176~282℉, 257℉		Lamp off if temperature continuously over for 5 minutes
	Lamp Adjust①	PAN……		Adjust value of channel
Information	Time Info.	Current XXXX(Hours) Fixture Life XXXX(Hours) Lamp Life XXXX(Hours)		Fixture boot time Fixture total run time Lamp total run time
	Lamp Info.	Voltage Current Power		HID Lamp Information
	Temperature	Near Lamp Temp (depends on fixture)		Temperature Sensors
	Fans Speed	Near Lamp Fan (depends on fixture)		Fan speed Sensors
	Channel Value	PAN……		Display value of channel
	Error Message	Pan,Tilt……		Error channels
	Fixture Model	xxxxxxxxxxxx		Display model brand and model
	Software Ver	1U01 V1.0.00………….		Version of each IC
Set	Reset	All Pan&Tilt Shutter Colors Gobos Others		Reset all Reset Pan&Tilt Reset Shutter Reset Colors Reset Gobos Reset Others
	Movment	Pan Reverse① Tilt Reverse① Pan Degree① Encoders① Pan/Tilt Mode①	ON/OFF ON/OFF 630/540 ON/OFF Stand/Smooth	Pan Reverse Tilt Reverse Choose Pan Degree Encoder wheel on/off Choose pan/tilt mode
	UI Set	Mic Sens. ③ No Signal① Temperature. C/F① Fans Mode① Hibernation① Backlight① Flip Display① Display Bright③ Brand Show①	0~99%,60% Close/Hold/Auto/Music Fahrenheit /Celsius Auto Speed /High Speed OFF, 01M~99M，15M 02~60m 02m ON/OFF 00~31 10 ON/OFF	Sensitivity of Mic Mode when no signal Temperature at ℃/℉ Fans mode Sleeping mode Show backlight time Display 180° reverse Display Brightness Show brand or not
		Key Lock① Language③	ON/OFF En/简/繁/Fr/Sp	Key lock on/off Language Select
	Users	User Mode①	Standard Extended Basic-8bit Basic-16bit	Standard mode Extended mode Basic mode-8bit Basic mode-16bit

			User	User program mode
		Edit User③	Max Channel = XX PAN = CH01 :	Edit users mode
	Calibration③	-Password- Color :	=XXX =XXX :	Password: 050 Calibrate channel value
	Fixture ID③	Name -Password- PID Code		Name Password: 050 Set PID of RDM
	Reload Default	Basic Reload(①) Program Reload(②) ---Password--- Private Reload(③) All Reload	ON/OFF ON/OFF XXX ON/OFF ON/OFF	Basic Reload Program Reload Password: 050 Private Reload All Reload
Program	Play①	DMX Receive Slave Receive Sequence Music	Slave Receive 1,2,3 Master / Alone Master / Alone	DMX Receive Choose slave position Run Sequence Music mode
	Select Chase②	Chase Part 1 Chase Part 2 Chase Part 3	Chase 1 ~ 8 Chase 1 Chase 1 ~ 8 Chase 2 Chase 1 ~ 8 Chase 3	Select and run auto program
	Edit Chase②	Chase 1 : Chase 8	Chase Test Step 01 =SCxxx Step 64 =SCxxx	Test Beginning scene Ending scene
	Edit Scenes②	Edit Scene 001 ~ Edit Scene 250	Pan,Tilt,…… =xxx --Fade Time-- =xxx --Secne Time-- =xxx DMX Input	Input manual scene Modify manually fading time Modify manually scene time Input scene from exterior controller
	Scenes Record	ScXX=>ScXX		Auto Input scenes

5. DMX connection and DMX protocol

5.1 DMX addressing:

5.1.1 The device is controlled by universal DMX 512 protocol, DMX address is the start channel used to receive instructions from the external controller. For independent control, each fixture must be assigned its unique address control channels. For example, this device has four channel modes: 20/24/14/16, if we set the mode at standard 20 channels mode, and there are several models need to be independently controlled, we just simply address first fixture at 1, and second fixture at 21, third one at 41, etc.
If the devices have the same address, they will behave synchronically.
DMX addressing is limited, don't set the address so high that without enough control channels for the fixtures.
Display is flashing when no DMX signal is received.

5.1.2 This device is equipped with 3-pins and 5-pins DMX in and out sockets only.

Pin 1 =GND
Pin 2=SIG(-)
Pin 3=SIG(+)

Pin 1 =GND   Pin 4 =N.A.
Pin 2=SIG(-)   Pin 5 =N.A.
Pin 3=SIG(+)

5.1.3 The termination is prepared by soldering a 120Ω resistor between pins 2 and 3.

120Ω

5.1.4 Connection: us DMX cable with 3+5 pin XLR-plugs to connect the controller with the fixture or one fixture with another.
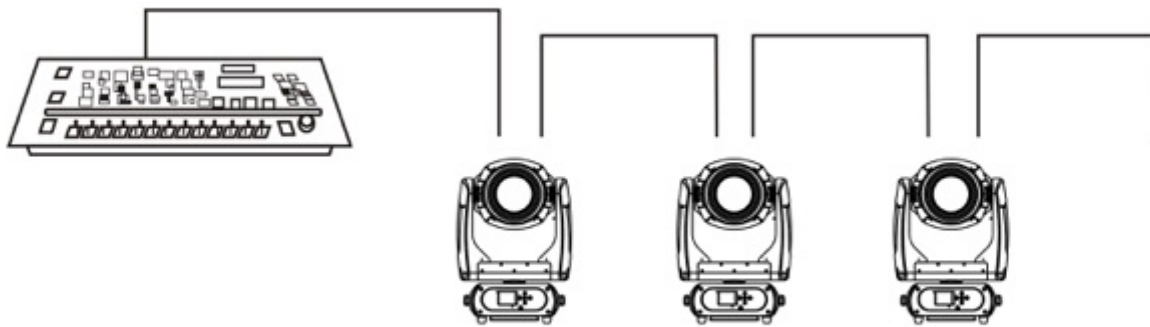
5.2 DMX chart

Channel				name	function	Min DMX	Max DMX
St	Ex	Ba1	Ba2				
1	1	1	1	Pan	Pan Coarse	0	255
	2		2	Pan fine	Pan Fine	0	255
2	3	2	3	Tilt	Tilt Coarse	0	255
	4		4	Tilt fine	Tilt Fine	0	255
3	5	3	5	Movment Speed	fastest to Slowest	0	255
	6			Movment Function	Normal	0	15
					Movement With Backout	16	31
					TBD	32	255
4	7			Shutter Function	Normal Shutter Functions	0	15
					Pulse-effect Forward	16	31
					Pulse-effect Reverse	32	47
					Random Strobe	48	63
					TBD	64	255
5	8			Shutter	Normal Shutter Functions		
					Close	0	31

9

				Function		Min	Max
					Strobe Rate (slow to fast)	32	223
					Open	224	255
					Pulse-effect Forward		
					Close	0	31
					Strobe Rate (slow to fast)	32	223
					Open	224	255
					Pulse-effect Reverse		
					Close	0	31
					Strobe Rate (slow to fast)	32	223
					Open	224	255
					Random Strobe		
					Close	0	31
					Strobe Rate (slow to fast)	32	223
					Open	224	255
		4	6	Shutter	Shutter closed	0	31
					No function (shutter open)	32	63
					Strobe effect slow to fast	64	95
					No function (shutter open)	96	127
					Pulse-effect in sequences	128	159
					No function (shutter open)	160	191
					Random strobe effect slow to fast	192	223
					No function (shutter open)	224	255
6	9	5	7	Dimmer	Dimmer(Close to Open)	0	255
7	10			Color Function	Indexed	0	15
					Indexed With BackOut	16	31
					Forward Spin	32	47
					Reverse Spin	48	63
					Continuous	64	79
					Color Bounce	80	111
					TBD	112	255
8	11			Color	Indexed & Indexed With BackOut&Color Bounce		
					Position 1 (Open)	0	8
					Position 2 ~ Position 28	9	255
					Forward Spin		
					Stop to fastest	0	255
					Reverse Spin		
					Stop to fastest	0	255
					Continuous		
					Positioning from 0-360 degrees	0	255
		6	8	Color	Indexed		
					Position 1 (Open)	0	1
					Position 2 ~ Position 14	2	27
					Indexed With Backout		
					Position 1 (Open)	28	29
					Position 2 ~ Position 14	30	55
					Indexed With Bounce		

					Position 1	56	67
					Position 2 ~ Position 14	68	223
					Forward Wheel Spin		
					Stop to fastest	224	239
					Reverse Wheel Spin		
					Stop to fastest	240	255
9	12			Rot Gobo Function	Indexed	0	15
					Indexed With BackOut	16	31
					Forward Spin	32	47
					Reverse Spin	48	63
					Continuous	64	79
					Shake	80	95
					TBD	96	255
10	13			Rot Gobo	Indexed & Indexed With Backout&Shake		
					Position 1 (Open)	0	25
					Position 2 ~ Position 10	26	255
					Forward Wheel Spin		
					Stop to fastest	0	255
					Reverse Wheel Spin		
					Stop to fastest	0	255
					Continuous		
					Positioning from 0-360 degrees	0	255
		7	9	Rot Gobo	Indexed		
					Position 1 (Open)	0	4
					Position 2 ~ Position 10	5	48
					Indexed With Backout		
					Position 1 (Open)	49	53
					Position 2 ~ Position 10	54	97
					Indexed With Shake		
					Position 2	98	111
					Position 3 ~ Position 10	112	223
					Forward Wheel Spin		
					Stop to fastest	224	239
					Reverse Wheel Spin		
					Stop to fastest	240	255
11	14			Gobo Rot Function	Continuous	0	15
					Forward Spin	16	31
					Reverse Spin	32	47
					Forward Animate Rotate	48	63
					Forward Animate Rotate With Backout	64	79
					Reverse Animate Rotate	80	95
					Reverse Animate Rotate With Backout	96	111
					TBD	112	255
12	15			Gobo Rot	Continuous		
					Positioning from 0-360 degrees	0	255
					Forward Spin		

					Stop to fastest	0	255
					Reverse Spin		
					Stop to fastest	0	255
					Forward Animate Rotate & Forward Animate Rotate With Backout		
					Stop to fastest	0	255
					Reverse Animate Rotate & Reverse Animate Rotate With Backout		
					Stop to fastest	0	255
		8	10	Gobo Rot	Continuous		
					Positioning from 0-360 degrees	0	191
					Forward Animate Rotate		
					Stop to fastest	192	207
					Reverse Animate Rotate		
					Stop to fastest	208	223
					Forward Spin		
					Stop to fastest	224	239
					Reverse Spin		
					Stop to fastest	240	255
13	16			Gobo Function	Indexed	0	15
					Indexed With BackOut	16	31
					Forward Spin	32	47
					Reverse Spin	48	63
					Continuous	64	79
					Shake	80	95
					TBD	96	255
14	17			Fixed Gobo	Indexed & Indexed With Backout&Shake		
					Position 1 (Open)	0	16
					Position 2 ~ Position 15	17	255
					Forward Wheel Spin		
					Stop to fastest	0	255
					Reverse Wheel Spin		
					Stop to fastest	0	255
					Continuous		
					Positioning from 0-360 degrees	0	255
		9	11	Fixed Gobo	Indexed		
					Position 1 (Open)	0	2
					Position 2 ~ Position 15	3	48
					Indexed With Backout		
					Position 1 (Open)	49	50
					Position 2 ~ Position 15	51	97
					Indexed With Shake		
					Position 2	98	106
					Position 3 ~ Position 15	107	223
					Forward Wheel Spin		
					Stop to fastest	224	239

					Reverse Wheel Spin		
					Stop to fastest	240	255
15	18	10	12	Prism	Indexed & Indexed With Backout		
					Position 1 (Open)	0	63
					Position 2	64	127
					Position 3	128	191
					Position 4	192	255
16	19	11	13	Prism Rot	Stop	0	3
					Forward Slow to fastest	4	127
					Stop	128	131
					Reverse Slow to fastest	132	255
					Stop to fastest	0	127
17	20			Focus Function	Continuous	0	15
					5m Auto Focus	16	31
					7.5m Auto Focus	32	47
					10m Auto Focus	48	63
					15m Auto Focus	64	95
					>20m Auto Focus	96	127
					TBD	128	255
18	21	12	14	Focus	Continuous		
					Focus In to Focus Out	0	255
					Auto Focus		
					Focus In to Focus Out Fine	0	255
19	22	13	15	Zoom	Continuous		
					Zoom Small to Big	0	255
					Auto Focus		
					Zoom In to Zoom Out Fine	0	255
20	23	14	16	Control	Normal	0	7
					Reset All	8	15
					Pan&Tilt Reset	16	23
					Color Reset	24	31
					Gobo Reset	32	39
					TBD	40	47
					Other Reset	48	55
					Display Off	56	63
					Display On	64	71
					Lamp Off	72	79
					Lamp On	80	87
					Hibernation	88	95
					TBD	96	255

6. Unique Features

6.1 RDM, stand for "Remote Device Management", with this function, users can realize remote control of the device, such as remotely changing DMX address, reverse pan/tilt setting, check a lot of useful information such as temperature, power consumption, fan speed. Etc. Every single device has a unique RDM code before left factory to distinguish from each other, usually not suggest users change this code freely.

6.2 Software upgrade function via DMX cable, if there is any new firmware for this device come out, it can be upgraded simply via a software upgrade box, no need to change any mechanical parts. The upgrade box is not included in the package, if need any further assistance pls just contact authorized dealers.

6.3 Hibernation, the device will enter sleeping mode if activated after a period of disconnecting DMX signal to save the power consumption, and will return immediately as soon as the DMX signal is sent again.

6.4 Display battery, this function is prepaid in the display PCB, users just need to install a normal 10440 600mAh 3.7V rechargeable lithium battery, then users could power on the display and do setting without connect to main power.

6.5 Display back-up communication IC, there is a back-up communication IC installed in the display PCB, so users could replace at once if the working one is broken, no need to wait long time from service.

6.6 Display flip, by press up and down button for more than 3 seconds, the display will flip automatically, this function is useful to read menu conveniently when device is hanged.

8. Dimensions Drawing
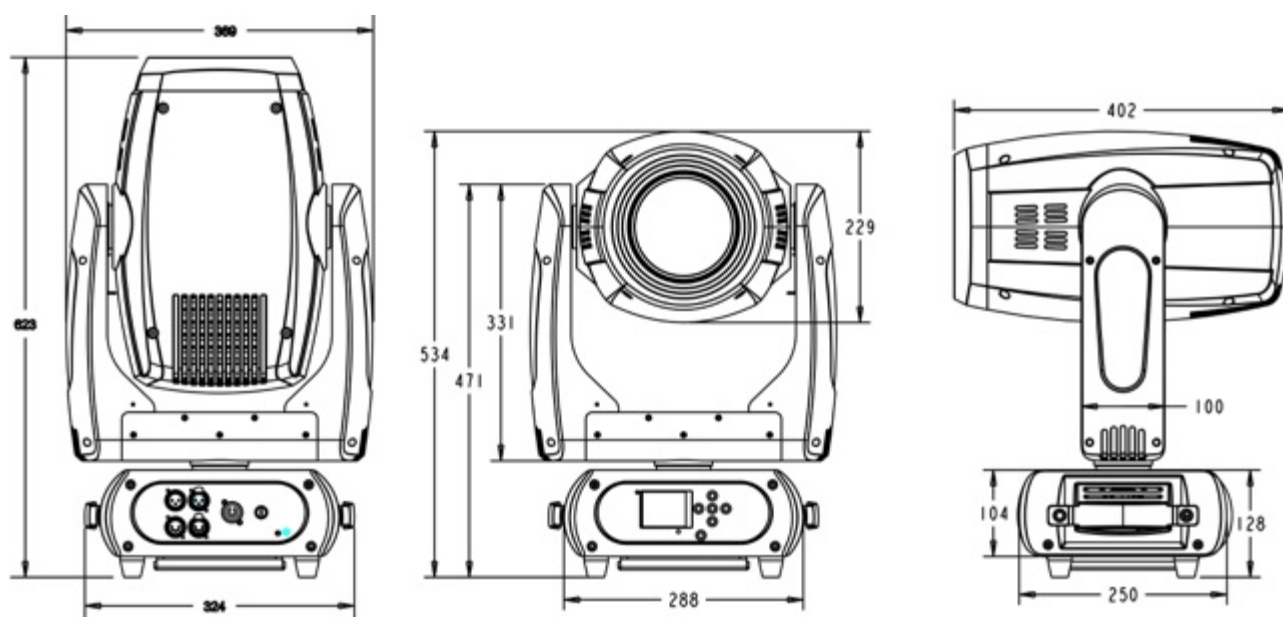
9. Technical specification

Power supply	100-240 V AC, 50/60 Hz ~
Power consumption	430W
LED	Osram Sirius HRI 280W discharge lamp
DMX channels	20/24/14/16 modes
Beam angle	2°-10° beam, 5.5°-23°spot
Luminous flux	12000lumen, 325000lux@10m
Fuse	T 5 A, 250 V
Device dimensions	369x402x623mm
Net Weight	17KG