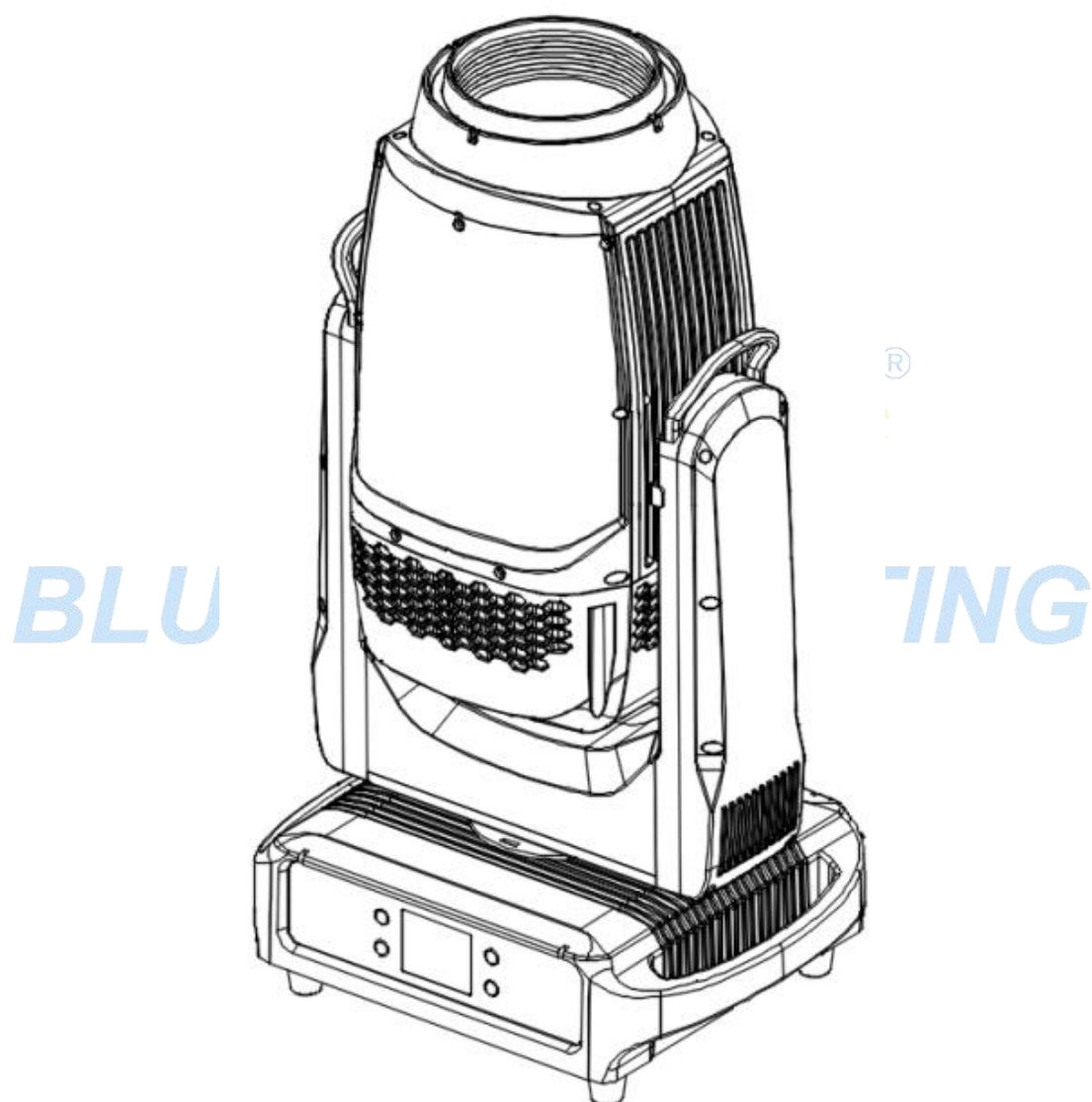


IP 420W BSW CMY

MOVING HEAD LIGHT



User Manual

Please read the instructions carefully before use

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1. Safety Instructions

Important:

Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems.

- Unpack and check carefully to ensure that there is no transportation damage before using the unit
- The equipment is suitable for dry and humid environments, with a protection grade of IP66. The lamps should be kept clean and should be cleaned and maintained regularly.
- Eligible professionals may install, operate, and maintain lighting equipment, and ensure that operations are strictly carried out in accordance with the procedures described in this manual.
- When securing equipment, use safe ropes. When moving lighting fixtures, please also support the bottom.
- The unit must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces.
- Make sure the power voltage before operation matches the power voltage required by the device.
- Each lighting fixture should be safely grounded and installed in accordance with relevant standards to prevent electric shock.
- Minimum ambient temperature TA: -10°C. Maximum ambient temperature TA: 40°C. Do not operate this product at a lower or higher temperature.
- During initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective, and it will decrease gradually within 15 minutes.
- Do not place flammable items next to the lighting when in operation to prevent fire hazards.
- Do not use power cables with damaged insulation, and do not place the power cable on other conductors. When the lighting is not in use or being cleaned, please unplug the power cable, do not pull or tug the power cable forcefully.
- Unit's surface temperature may reach up to 85°C. DO NOT touch the housing bare-handed during its operation.
- Avoid any flammable liquids, water or metal from entering the unit. Once it happens, cut off the mains power immediately.
- Do not touch the wires when the lighting is operating to prevent electric shock.
- The distance between the lighting and the illuminated surface should be greater than 12

meters.

- No available parts inside the lighting fixture,do not open the fixture shell arbitrarily.
- Machine failure occurred, please stop using it immediately. Non-professional technicians are not allowed to repair it themselves
- Please use the original packaging materials when transportation is required again.
- Replace the light bulb in a timely manner when it is damaged,warped due to heat, or exceeds its service life.
- Do not stare directly at the lights when they are in operation.

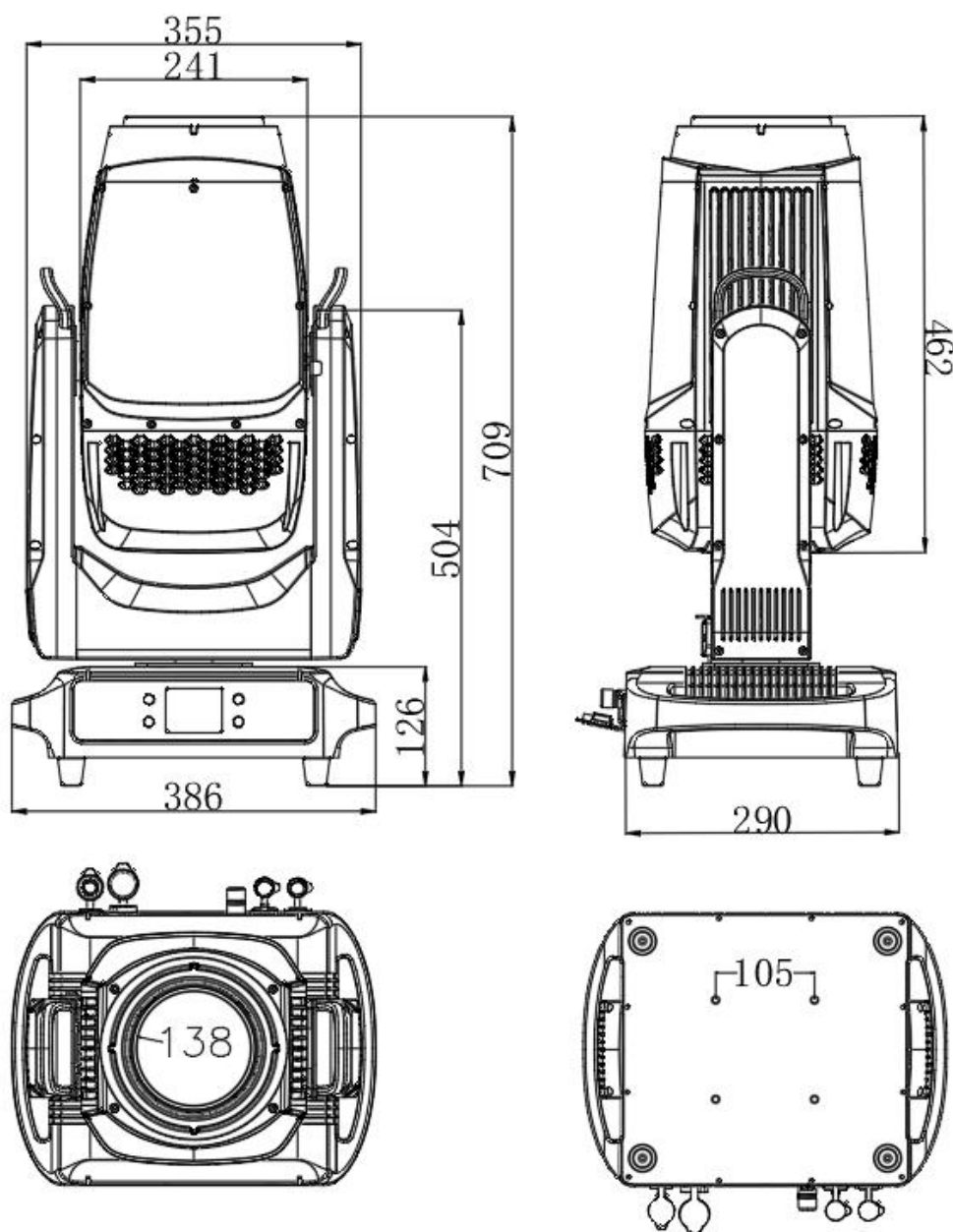


2. Product Introduction

Technical specification table

Power Voltage	AC100V-240V 50/60HZ
Power Consumption	600W
Light Source	PHILIPS MSD Silver 420W/2 LL
Color temperature	7800±500K
Light source lifespan	3500 hours
Beam angle	2°-31°
Outcoating diameter	140mm
PAN scan	540°
TILT scan	270°
Color	Linear CMY color mixing; 2 Color Wheels with 12 Colors
Gobo Wheel	1 Static Gobo Wheel 14gobos;1 Rotating Gobo Wheel 7 interchangeable gobos
Focus	0-100% Electronic High-Definition Focus
Frost	1 Frost Filter
Strobe	1-20Hz, various strobe effects
Dimming	0-100% smooth dimming
Prism	6-facet prism , 6 facet linear prism
Power connection	Waterproof power connector in/out
DMX connection	3-pin/5-pin XLR Connector
Working temperature	-10℃～+40℃
Dimensions	709*386*290mm
Weight	27kg
Protection Rating	IP66
Shell	All-magnesium alloy body with black baked finish
Control Mode	DMX512, Master-Slave, Auto Run, RDM
DMX Channel	28CH
Display	2.8-inch Display Screen with Automatic Flip Function

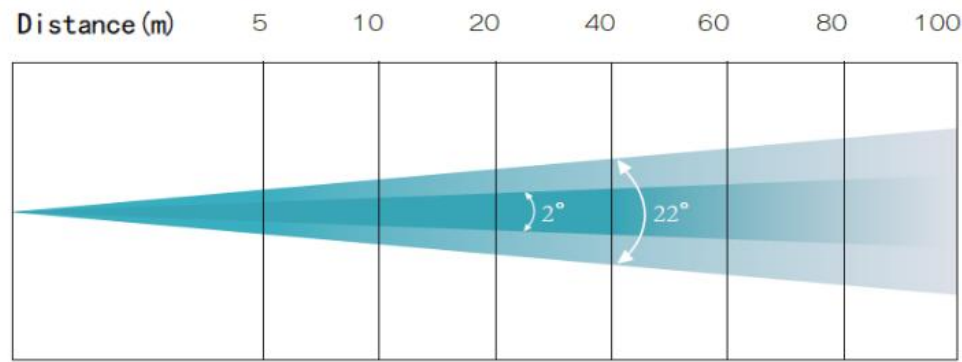
2.1 Product Dimension



IG

2.2 Photometric Diagram

Beam Mode



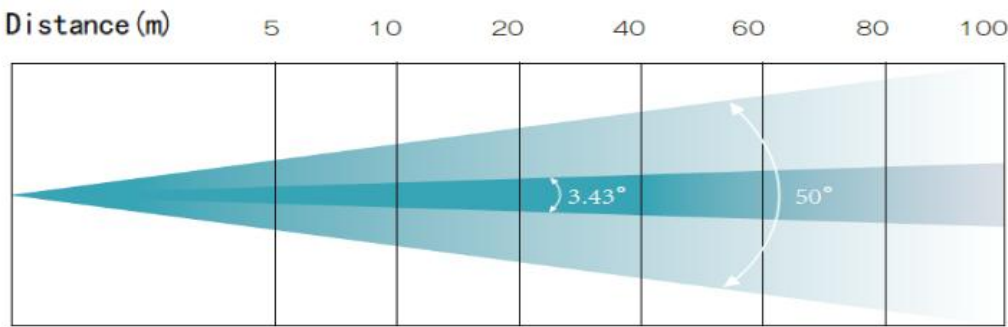
Beam Mode (1.95) °

Lux	1764000	441000	110250	27563	12250	6891	4410
Spot Diameter	0.17	0.34	0.68	1.36	2.04	2.72	3.4

Beam Mode 22°

Lux	22000	5500	1375	344	153	86	55
Spot Diameter	2.02	4.04	8.08	16	24	32	40

Gobo Mode



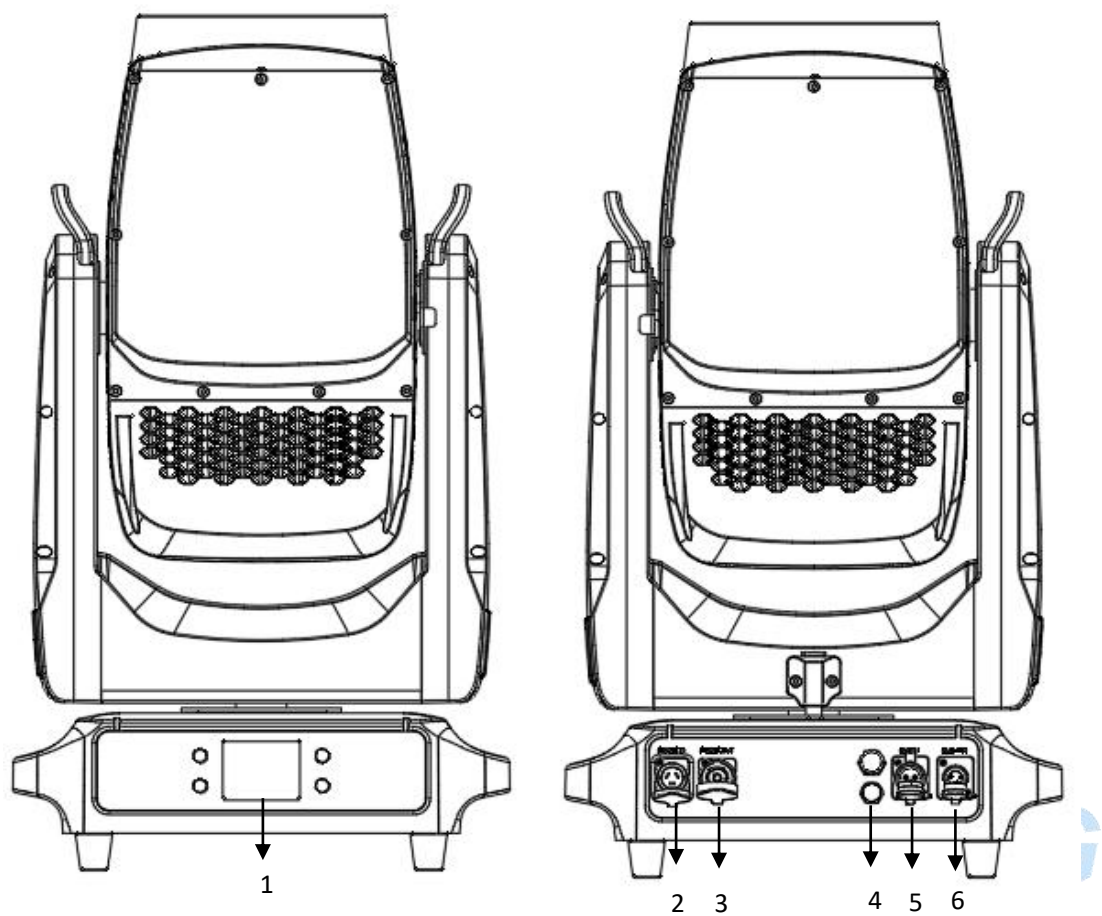
Gobo Mode (3.43) °

Lux	1840000	460000	115000	28750	12778	7188	4600
Spot Diameter	0.3	0.6	1.2	2.4	3.6	4.79	5.99

Gobo Mode 50°

Lux	13600	3400	850	213	94	53	34
Spot Diameter	5.87	11.74	22.48	46.97	70.45	93.93	117.42

3. Control Panel



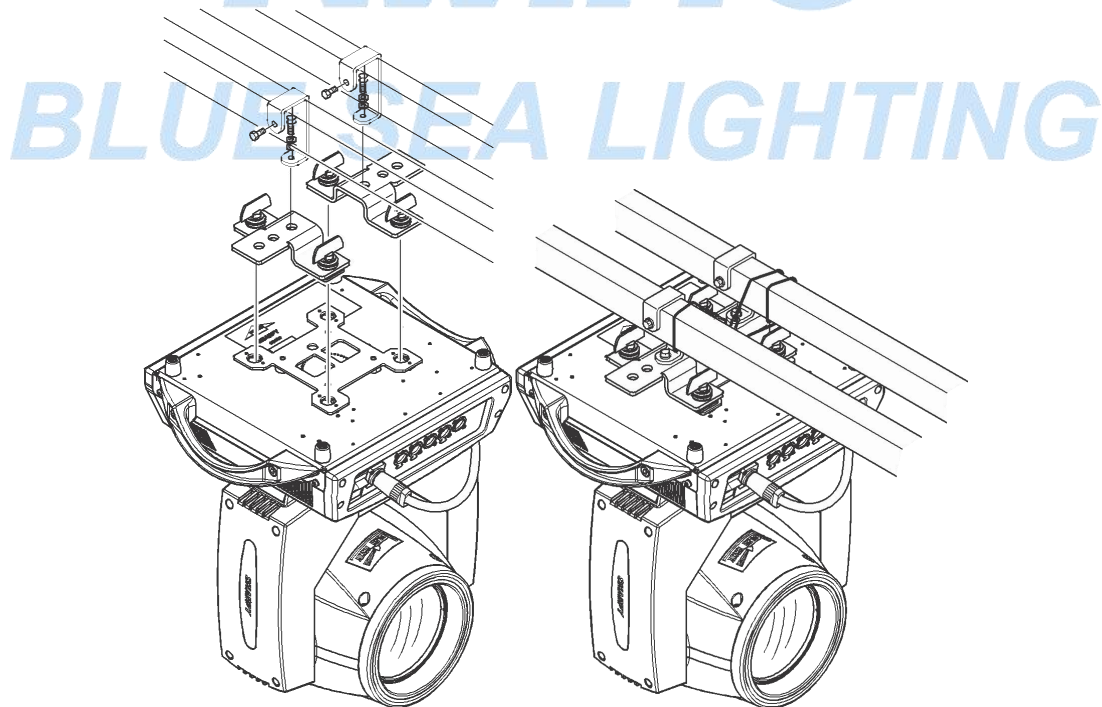
1. Display panel	MENU	Enter the menu function	
	▲UP	UP	To go backward to move up in the menu
	▼DOWN	DOWN	To go forward to move down in the menu
	ENTER	ENTER	To perform the desired functions
2. Power In	To connect to supply power		
3. Power Out	To connect to the next fixture		
4.RELEASE VALVE			
5.DMX In	For DMX512 link, use 3-pin XLR cable to link the unit and DMX controller		
6.DMX Out	For DMX512 link, use 3-pin XLR cable to link the next units		

This product uses IP65 waterproof power cable IN/OUT

Note: Due to power reasons, a 1.5 square millimeter power cable can only power a maximum of 4 units (230V), and 120V can only power a maximum of 2 units

4. Lighting installation

1. The installation of the equipment should be carried out by professionals, and the area where the lighting fixtures may be accessible to unauthorized personnel should be kept away. Do not stand directly below the lighting fixtures when assembling, disassembling, or repairing them.
2. When installing lighting fixtures, make sure they are securely installed to prevent them from shaking and falling off during operation. Also, ensure that the structure used to fix the lighting fixtures can support 10 times the weight of the fixtures without deforming. At the same time as installing the lighting fixtures, use a safety rope that can support 12 times the weight of the fixtures to ensure that the fixtures will not fall off if the clamp fails.
3. This lamp is fully operable in three different installation positions: suspended, hanging, or placed on a flat horizontal surface. Always use and install the attached safety rope as a safety measure to prevent the lamp from being accidentally damaged or causing personal injury when the fixture fails.



5. Lighting setup

Menu function

- First use requires unlocking the menu, press the [▲UP] and [▼DOWN] buttons twice, then press the [ENTER] key to unlock.
- Use the [ENTER],[▲UP], and [▼DOWN] buttons to navigate the menu.
- Press the [ENTER] button to select menu options or confirm the selected settings.
- Return to the previous menu without making any changes. Press the [MENU] button to return and exit.
- Long-time inactivity will automatically lock the screen of the lighting equipment, which needs to be unlocked by pressing the [▲UP] and [▼DOWN] buttons twice in sequence and then pressing the [ENTER] key.

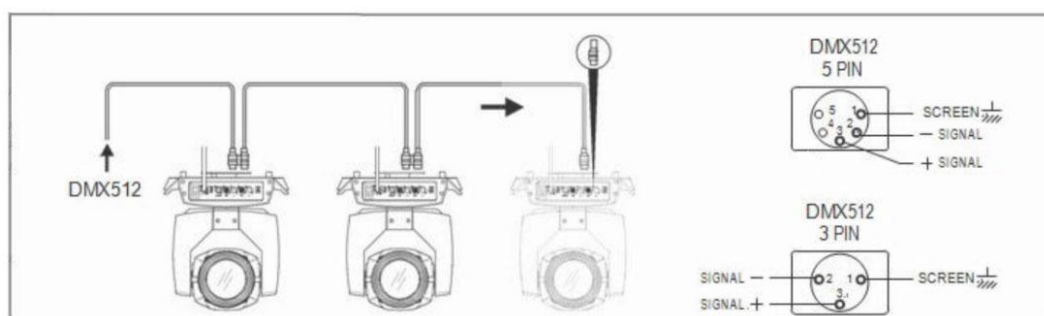
Menu functions as follows

Level 1 Menu	Level 2 Menu	Level 3 Menu	Level 4 Menu	Level 5 Menu	
DMX Setup	Dmx Address	1 - 512			
	Channel Mode	28CH			
	Run Mode	DMX			
		Auto Scene			
Personality	Pan Inverse	No			
		Yes			
	Tilt Inverse	No			
		Yes			
	Pan/Tilt Feedback	Off			
		On			
	No Data Mode	Blackout			
		Hold			
	M/S Mode	Slave			
		Master			
	Lamp Mode	Manual			
		Reset			
Display	Display Rotate	Off			
		On			
	Screen Lock	Normal			
		Rotate 180			
		Off			

	Language	On			
		English			
		Chinese			
Motor Reset	All	No			
		Yes			
	Pan/Tilt	No			
		Yes			
	Effect	No			
		Yes			
Manual Control	◦ ◦ ◦	0 - 255			
DMX Live	◦ ◦ ◦	0 - 255			
Service	Password	Calibration	Motor	Pan	-128 ->127
				◦ ◦ ◦	-128 ->127
		Factory Default	No		
			Yes		
		Clear Power On Time	No		
			Yes		
		Clear Lamp Hours	No		
			Yes		
Information	Power On Time	xxxxxH			
	Lamp Hours	xxxxxH			
	SW Version	1U: Vx.x.x			
		2U: Vx.x.x			
		3U: Vx.x.x			
	RDM UID	0XXXXX-			
		XXXXXXXX			

6. Control By Universal DMX Controller

6.1 DMX512 Connection



DMX signal line connection diagram

- At last unit, the DMX cable has to be terminated with a terminator. Solder a 120-ohm 1/4W resistor between pin 2(DMX-) and pin 3(DMX+) into a 3-pin XLR-plug and plug it in the DMX-output of the last unit.
- Connect the unit together in a “daisy chain” by XLR plug cable from the output of the unit to the input of the next unit. The cable can only be used in series and cannot be connected in parallel. DMX 512 is a very high-speed signal. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort the signal and shut down the system.
- The DMX output and input connectors are pass-through to maintain the DMX circuit, when one of the units’ power is disconnected.
- Each lighting unit needs to have a DMX address to receive the data by the controller. The address number is between 1-512.
- Each lighting unit needs to have a DMX address to receive the data by the controller. The address number is between 1-512.
- 3 pin XLR connectors are more popular than 5 pins XLR.

3 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+)

5 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+), Pin4, Pin5 not used.

6.2 Address Setting

If you use a universal DMX controller to control the units, you have to set DMX address from 1 to 512 so that the units can receive DMX signal.

Press the MENU button to enter the main menu, select DMX settings, press the ENTER button to confirm, use the UP/DOWN buttons to select the address code (1-512), and press the ENTER button to save.

Please refer to the following diagram to address your DMX512 channel for the first 4 units.=

Channel	Address	Unit 1 Address	Unit 2 Address	Unit 3 Address	Unit 4 Address
28CH	001-028	001	029	057	085

6.3 DMX Channel

Channel	NAME	VALUE			DERIF
28CH					
1	Pan	000	-	255	0-540°
2	PanFine	000	-	255	0-2°
3	Tilt	000	-	255	0-270°
4	TiltFine	000	-	255	0-1.2°
5	PanTiltSpeed	000	-	255	Speed up and slow down
6	Strobe	000	-	003	OFF
		004	-	103	Pulse frequency flashes from slow to fast
		104	-	107	open
		108	-	207	fast
		208	-	212	open
		213	-	251	Random strobe slow to fast
		252	-	255	open
7	Dimmer	000	-	255	0-100%
8	DimmerFine	000	-	255	0-100%
9	Cyan	000	-	255	From shallow to deep
10	Magenta	000	-	255	From shallow to deep
11	Yellow	000	-	255	From shallow to deep
12	CTO	000	-	255	From shallow to deep
13	Colour1	000	-	007	white
		008	-	016	Color 1
		017	-	025	Color 2
		026	-	034	Color 3
		035	-	043	Color 4
		044	-	052	Color 5
		053	-	063	Color 6
		064	-	067	white
		068	-	071	white+Color1

		072	-	075	Color1
		076	-	079	Color1+Color2
		080	-	083	Color2
		084	-	087	Color2+Color3
		088	-	091	Color3
		092	-	095	Color3+Color4
		096	-	099	Color4
		100	-	103	Color4+Color5
		104	-	107	Color5
		108	-	111	Color5+Color6
		112	-	115	Color6
		116	-	255	white
14	Colour2	000	-	007	white
		008	-	016	Color 1
		017	-	025	Color 2
		026	-	034	Color 3
		035	-	043	Color 4
		044	-	052	Color 5
		053	-	063	Color 6
		064	-	067	white
		068	-	071	white+Color1
		072	-	075	Color1
		076	-	079	Color1+Color2
		080	-	083	Color2
		084	-	087	Color2+Color3
		088	-	091	Color3
		092	-	095	Color3+Color4
		096	-	099	Color4
		100	-	103	Color4+Color5
		104	-	107	Color5
		108	-	111	Color5+Color6
		112	-	115	Color6
		116	-	255	white
15	FixGobo	000	-	004	white
		005	-	009	GOBO 1
		010	-	014	GOBO 2
		015	-	019	GOBO 3
		020	-	024	GOBO 4
		025	-	029	GOBO 5
		030	-	034	GOBO 6
		035	-	039	GOBO 7
		040	-	044	GOBO 8
		045	-	049	GOBO 9

		050	-	054	GOBO 10
		055	-	059	GOBO 11
		060	-	064	GOBO 12
		065	-	069	GOBO 13
		070	-	074	GOBO 14
		075	-	079	Pattern 2 shakes from slow to fast
		080	-	084	Pattern 3 shakes from slow to fast
		085	-	089	Pattern 4 shakes from slow to fast
		090	-	094	Pattern 5 shakes from slow to fast
		095	-	099	Pattern 6 shakes from slow to fast
		100	-	104	Pattern 7 shakes from slow to fast
		105	-	109	Pattern 8 shakes from slow to fast
		110	-	114	Pattern 9 shakes from slow to fast
		115	-	119	Pattern 10 shakes from slow to fast
		120	-	124	The pattern 11 shakes from slow to fast
		125	-	129	The pattern 12 shakes from slow to fast
		130	-	134	The pattern 13 shakes from slow to fast
		135	-	139	The pattern 14 shakes from slow to fast
		140	-	189	The rotation is fast and slow
		190	-	205	stop
		206	-	255	Reversals are slow to fast
16	RotGobo	000	-	009	white
		010	-	019	GOBO 1
		020	-	029	GOBO 2
		030	-	039	GOBO 3
		040	-	049	GOBO 4
		050	-	059	GOBO 5
		060	-	069	GOBO 6
		070	-	079	GOBO 7
		080	-	089	Pattern 1 shakes from slow to fast
		090	-	099	Pattern 2 shakes from slow to fast
		100	-	109	Pattern 3 shakes from slow to fast
		110	-	119	Pattern 4 shakes from slow to fast
		120	-	129	Pattern 5 shakes from slow to fast
		130	-	139	Pattern 6 shakes from slow to fast
		140	-	149	Pattern 7 shakes from slow to fast
		150	-	200	The rotation is fast and slow
		201	-	205	stop
		206	-	255	Reversals are slow to fast
17	GoboRot	000	-	127	Pattern positioning
		128	-	189	Rotate the pattern in reverse, from fast to slow
		190	-	193	The pattern stops rotating

		194	-	255	The pattern rotates forward, from slow to fast
18	GoboRot Fine	000	-	255	Make fine adjustments when positioning the pattern
19	Prism	000	-	007	No prism
		008	-	255	Prism 1
20	PrismRot	000	-	127	Prism Angle adjustment
		128	-	189	The prism slows down and speeds up
		190	-	193	The prism stopped spinning
		194	-	255	The prism reverses from slow to fast
21	Prism2	000	-	007	No prism
		008	-	255	Prism 2
22	Prism2Rot	000	-	127	Prism Angle adjustment
		128	-	189	The prism slows down and speeds up
		190	-	193	The prism stopped spinning
		194	-	255	The prism reverses from slow to fast
23	Frost	000	-	007	No Frost
		008	-	255	Frost cut in
24	Zoom	000	-	255	0-100%
25	Focus	000	-	255	0-100%
26	Focus Fine	000	-	255	0-100%
27	Uniform light	000	-	007	No uniformity
		008	-	255	Uniformity cut in
28	Function	100	-	105	Off lamp
		200	-	205	On lamp
		210	-	215	XY reset
		220	-	235	Effect: Motor reset
		240	-	255	Complete machine reset

7. Troubleshooting

Following are a few common problems that may occur during operation. Here are some suggestions for troubleshooting:

- A. The unit does not work, no light and the fan does not work.
- ◆ Check the connected power and main fuse.
 - ◆ Measure the voltage.
 - ◆ Check the power indicator to see whether it can be lit up or not.
- B. Not responding to the DMX controller.
- ◆ Check whether the DMX connectors and the DMX cables are connected correctly.
 - ◆ Check whether the DMX address is correctly set.
 - ◆ If the intermittent DMX signal problem occurs, check whether the XLR socket and the signal cable are well connected.
 - ◆ Try it with another DMX controller.
 - ◆ Check whether the DMX cables run near or alongside to the high-voltage cables, which may damage or interfere with the signal circuit.

8. Equipment cleaning

It is absolutely essential that the fixture is kept clean to ensure the maximum light-output and allow the fixture to function reliably throughout its life. The fixture must be cleaned regularly to avoid dust, dirt and smoke-fluid residues building up on or within the fixture. The cleaning frequency depends on the application environment. Clean the fixture immediately if the dust enters it to avoid damage to the optical lens due to excessive dust.

- ◆ A soft lint-free cloth moistened with any good glass cleaning fluid is recommended, under no circumstances should solvents be used.
- ◆ Always dry the parts carefully.
- ◆ Clean the external optical lens at least every 20 days