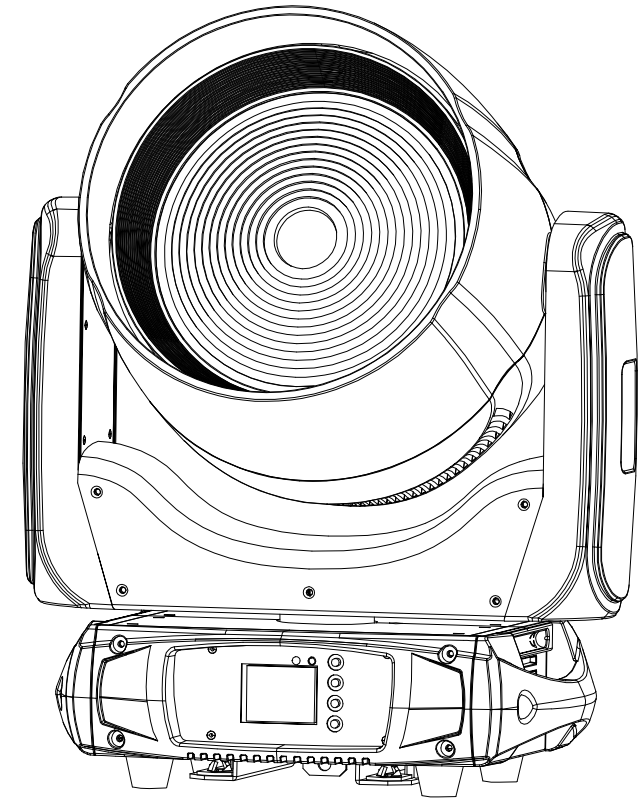




FOS Opera Wash



Version 1.0

USER MANUAL

- Be sure to read the USER MANUAL carefully before using this product.
- Be sure to keep the USER MANUAL properly for future needs.
- Use this product correctly when you can fully understand the User Manual

1.Safety instructions

THANK YOU FOR CHOOSING OUR FOS Opera Wash. FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOU INITIAL START - UP!

CAUTION!
Be careful with your operations.
With a high voltage you can suffer a dangerous electric shock when touching the wires!

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

CAUTION!
Keep this device away from rain and moisture!
Unplug mains lead before opening the housing!

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

During the operation the housing becomes hot). Allow the fixture to cool approximately 20 minutes prior to manipulate with it.

Make sure that the available voltage is not higher than stated on the rear panel.

WARNING! This unit does not contain an ON/OFF switch. Always disconnect power input cable to completely remove power from unit when not in use or before cleaning or servicing the fixture.

Make sure that the power-cord is never crimped or damaged by sharp edges. Check the device and the power-cord from time to time.

Always disconnect from the mains, when the device is not in use or before cleaning it. Only handle the power-cord by the plug. Never pull out the plug by tugging the power cord.

This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.

The electric connection, repairs and servicing must be carried out by a qualified employee.

Do not connect this device to a dimmer pack.

Do not switch the fixture on and off in short intervals as this would reduce the lamp's life.

During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.

Do not touch the device's housing bare hands during its operation (housing becomes hot)!

For replacement use lamps and fuses of same type and rating only.

CAUTION ! EYE DAMAGES !
Avoid looking directly into the light source
(meant especially for epileptics) !

35	26	144..151	1.9s Delay
		152..159	2s Delay
		160..167	2.1s Delay
		168..175	2.2s Delay
		176..183	2.3s Delay
		184..191	2.4s Delay
		192..199	2.5s Delay
		200..207	2.6s Delay
		208..215	2.7s Delay
		216..220	2.8s Delay
		224..231	2.9s Delay
		232..239	3s Delay
		240..247	3.1s Delay
		248..255	3.2s Delay

10.Maintenance and cleaning

It is absolutely essential that the fixture is kept clean and that dust, dirt and smoke-fluid residues must not build up on or within the fixture. Otherwise, the fixture's light-output will be significantly reduced. Regular cleaning will not only ensure the maximum light-output, but will also allow the fixture to function reliably throughout its life. A soft lint-free cloth moistened with any good glass cleaning fluid is recommended, under no circumstances should alcohol or solvents be used!

DANGER !
Disconnect from the mains before starting any
maintenance work

The front objective lens will require weekly cleaning as smoke-fluid tends to building up residues, reducing the light-output very quickly. The cooling-fans should be cleaned monthly.

The interior of the fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet. Remove dust and dirt from the fans and cooling vents using a soft brush and vacuum-cleaner.

Important! Check the air filters periodically and clean before they become clogged!

Clean two air filters placed in the fixture's covers and two in the fixture base. Use a vacuum cleaner, compressed air or you can wash them and put back dry.

After replacing the air filters, reset the elapsed time counter in the menu "Information" (Information---> Air Filters---> Elapsed Time).

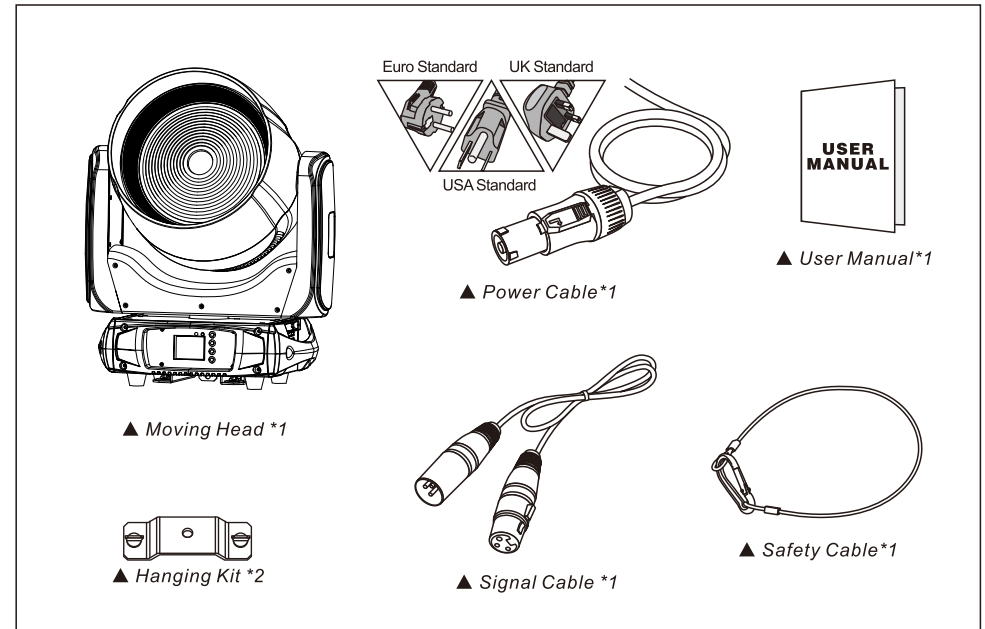
Replacing the fuse. Before replacing the fuse, unplug mains lead.

- 1) Remove the fuse holder on the rear panel of the base with a fitting screwdriver from the housing (anti-clockwise).
- 2) Remove the old fuse from the fuse holder.
- 3) Install the new fuse in the fuse holder (only the same type and rating).
- 4) Replace the fuseholder in the housing and fix it.

33	24		Macro Speed
		0..255	Macro Speed from Slow To Fast
34	25		Special function
		0..19	No function
		20..24	FAN Auto Mode
		25..29	FAN High Speed
		30..34	FAN Mid Speed
		35..39	FAN Low Speed
		40..44	Linear Dimmer Curve
		45..49	S-Curve Dimmer Curve
		50..54	Square Dimmer Curve
		55..59	InvSquare Dimmer Curve
		60..79	No function
		80..89	All Motor reset
		90..94	SCAN Motor Reset
		95..99	ZOOM Motor Reset
		100..108	Internal program 1
		109..117	Internal program 2
		118..126	Internal program 3
		127..135	Internal program 4
		136..144	Internal program 5
		145..153	Internal program 6
		154..162	Internal program 7
		163..171	Internal program 8
		172..180	Internal program 9
		181..189	Internal Sound program 1
		190..198	Internal Sound program 2
		199..207	Internal Sound program 3
		208..216	Internal Sound program 4
		217..225	Internal Sound program 5
		226..234	Internal Sound program 6
		235..243	Internal Sound program 7
		244..252	Internal Sound program 8
		253..255	Internal Sound program 9
35	26		Internal program Delay(Refresh Run after Change Internal program)
		0..2	No Delay
		3..5	Delay of "Slave Delay Set"(From Display Panel)
		5..7	0.1s Delay
		8..15	0.2s Delay
		16..23	0.3s Delay
		24..31	0.4s Delay
		32..39	0.5s Delay
		40..47	0.6s Delay
		48..55	0.7s Delay
		56..63	0.8s Delay
		64..71	0.9s Delay
		72..79	1s Delay
		80..87	1.1s Delay
		88..95	1.2s Delay
		96..103	1.3s Delay
		104..111	1.4s Delay
		112..119	1.5s Delay
		120..127	1.6s Delay
		128..135	1.7s Delay
		136..143	1.8s Delay

2.UNPACKING

The FOS Opera Wash adopts a 600W white LED lamp which features high brightness and stability. Please carefully unpack it when you receive the fixture and check whether it is damaged during the transportation. And please check whether the following items are included inside the box:



The FOS Opera Wash is made of a new type of high temperature strength of engineering plastics and cast aluminum casing with nice outlook . The fixture is designed and manufactured strictly following CE standards, complying with international standard DMX512 protocol. It's available independently controlled and linkable with each other for operation. And it is applicable for large-scale live per formances, theater, studio, nightclubs and discos.

This manual covers the important information on installation and applications. Meanwhile, please keep this manual well for future needs.

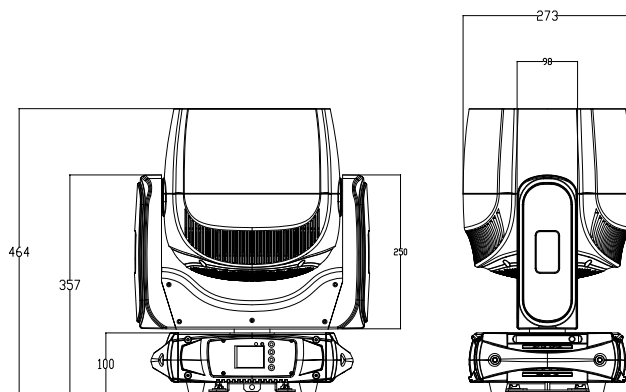
3. TECHNICAL INFORMATION

SPECIFICATIONS:

- A 600W RGBALW LED
- Input Voltage: AC90-260V 50/60Hz
- ControlSignal: DMX512, master-slave and sound activated or auto operation
- Control Channel: 26/35DMX channel modes
- Power Consumption: 659W
- Imensions: 414(D)*286(W)*413(H)mm
- Packing Dimensions: 525(D)*380(W)*530(H)mm
- Net Weight: 14.5kgs
- Gross Weight: 18.7kgs

FEATURES:

- Ø199mm frenal lens
- Optional ArtNet or sACN network DMX512 communication protocol
- Optional USB firmware upgrade or USB wireless DMX
- 16-bit resolution fast PAN/TILT movement
- RGBAL+W W 6 color LED Engine Evolution
- 0-100% smooth linear dimmer
- Up to 55° heavy frost
- Variable speed strobe with 1-25 flashes per second
- 10°-47° custom disigned zoom
- Advance color generation
- Beam shaper indexable, endless rotation
- Bulid-in Macro RUN



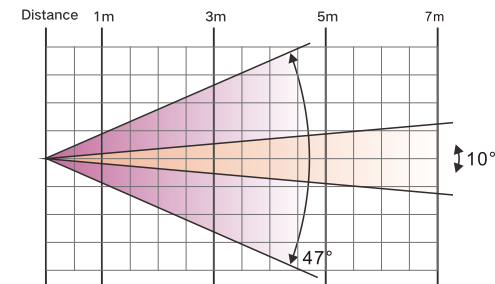
23	14	144..145	Lee 345 fuchsia pink
		146..147	Lee 353 lighter blue
		148..149	Lee 506 Marlene
		150..151	Lee 601 Silver
		152..153	Lee 725 Old SteelLee Blue
		154..155	Lee 728 SteelLee Green
		156..157	Lee 731 Dirty Ice
		158..159	Lee 765 LEE Yellow
		160..161	Lee 777 rust
		162..163	Lee 795 MagicaLee Magenta
		164..165	Lee 797 Deep Purple
24	15	166..255	No Function
			GELS To Colors FADE
25	16		Fade from gel Mix to Colors Mix
			0 = 100% GEL LIBRARY Mix, 0% Colors Mix
			128 = 50% GEL LIBRARY Mix, 50% Colors Mix
			255 = 0% GEL LIBRARY Mix, 100% Colors Mix
26	17	000-255	Color Temp
			No Function
			1800K-10000K (1Steps 100K)
			10000K
27	18		Tint (Green Magenta Shift)
			△ uv 0 (no shift - on black body curve)
			Magenta To △ uv 0
			△ uv 0 (no shift - on black body curve)
28	19		△ uv 0 To Green
			Linear Crossfade from Color To CCT whites
			Color To CCT whites 0-100%
			Focus
29	20		In(near) to out(far)
			Frost
			Frost OFF
			Frost ON
30	21		Prism
			Prism OFF
			Prism ON
			Prism Rotating
31	22		Prism Rotating indexing
			Forwards rotation from fast to slow
			Prism rotation stop
			Backwards rotation from slow to fast
32	23		Macro RUN
			No function
			Macro Run 1
			Macro Run 2
			Macro Run 3
			Macro Run 4
			Macro Run 5
			Macro Run 6
			Macro Sound 1
			Macro Sound 2
			Macro Sound 3
			Macro Sound 4
			Macro Sound 5
			Macro Sound 6

23

14

30..31	Lee 058 Lavender
32..33	Lee 068 Sky Blue
34..35	Lee 079 Just Blue
36..37	Lee 085 Deeper Blue
38..39	Lee 088 Lime Green
40..41	Lee 089 moss green
42..43	Lee 100 Spring Yellow
44..45	Lee 101 yellow
46..47	Lee 102 light amber
48..49	Lee 103 Straw
50..51	Lee 104 DEEP AMBER
52..53	Lee 105 Orange
54..55	Lee 106 primary red
56..57	Lee 108 English rose
58..59	Lee 111 dark pink
60..61	Lee 113 magenta
62..63	Lee 115 peacock blue
64..65	Lee 117 SteelLee Blue
66..67	Lee 118 Light Blue
68..69	Lee 119 dark blue
70..71	Lee 121 lee green
72..73	Lee 122 fern green
74..75	Lee 124 dark green
76..77	Lee 126 mauve
78..79	Lee 132 Medium Blue
80..81	Lee 136 Pale Lavender
82..83	Lee 137 SpeciaLee lavender
84..85	Lee 138 Pale Green
86..87	Lee 139 primary green
88..89	Lee 142 Pale Violet
90..91	Lee 147 apricot
92..93	Lee 151 Gold Tint
94..95	Lee 152 pale gold
96..97	Lee 154 pale rose
98..99	Lee 156 Chocolate
100..101	Lee 164 flame red
102..103	Lee 170 deep lavender
104..105	Lee 174 dark steelLee blue
106..107	Lee 176 loving amber
108..109	Lee 179 chrome orange
110..111	Lee 180 dark lavender
112..113	Lee 181 congo blue
114..115	Lee 182 Light Red
116..117	Lee 194 Surprise Pink
118..119	Lee 195 zenith blue
120..121	Lee 200 Double C.T. Blue
122..123	Lee 201 FulLee C.T. Blue
124..125	Lee 202 Half C.T Blue
126..127	Lee 203 Quarter C.T. Blue
128..129	Lee 204 FulLee C.T. Orange
130..131	Lee 205 Half C.T. Orange
132..133	Lee 206 Quarter C.T. Orange
134..135	Lee 242 Fluorescent 4300 Kevin
136..137	Lee 249 1/4 minus green
138..139	Lee 323 jade
140..141	Lee 328 Follies Pink
142..143	Lee 343 speciaLee medium lavender

4.PHOTOMETRICS DIAGRAM



10°(LUX)	R	15783	3013	1199	681
	G	14964	2706	1077	573
	B	23020	3929	1561	832
	A	25320	4531	1729	935
	L	40540	7338	2865	1520
	W	17184	3212	1251	661
	RGBALW	112650	19649	7855	4127
	Diameter(m)	0.18	0.53	0.88	1.30
47°(LUX)	R	3390	465	164	103
	G	3025	430	160	90
	B	4340	646	234	126
	A	4872	736	260	141
	L	7179	1200	417	224
	W	3172	490	187	100
	RGBALW	21050	3500	1266	656
	Diameter(m)	0.88	2.60	4.40	6.01

5.OPERATION INSTRUCTIONS

- The FOS Opera Wash is for beam effect for on-site decoration purpose.
- Don't turn on the fixture if it's been through severe temperature difference like after transportation because it might damage the light due to the environment changes. So make sure to operate the fixture until it is in normal temperature.
- This light should be keep away from strong shaking during any transportation or movement.
- Don't pull up the light by only the head, or it might cause damages to the mechanical parts.
- Don't expose the fixture in overheat, moisture or environment with too much dust when installing it. And don't lay any power cables on the floor. Or it might cause electronic shock to the people.
- Make sure the installation place is in good safety condition before installing the fixture.
- Make sure to put the safety chain and check whether the screws are screwed properly when installing the fixture.
- Make sure the lens are in good condition.It's recommended to replace the units if there are any damages or severe scratch.
- Make sure the fixture is operated by qualified personnel who knows the fixture before using.
- Keep the original packages if any second shipment is needed.
- Don't try to change the fixtures without any instruction by the manufacturer or the appointed repairing agencies.
- It is not in warranty range if there are any malfunctions from not following the user manual to operate or any illegal operation, like shock short circuit, electronic shock , lamp broke, etc.

6.INSTALLATIONS

Cautions:

For added protection mount the fixtures in areas outside walking paths, seating areas, or in areas where the fixture might be reached by unauthorized personnel.

Before mounting the fixture to any surface, make sure that the installation area can hold a minimum point load of 10 times the device's weight.

Fixture installation must always be secured with a secondary safety attachment, such as an appropriate safety cable.

Never stand directly below the device when mounting, removing, or servicing the fixture.

from a ceiling, or set on a flat level surface (see illustration below). Be sure this fixture is kept at least 0.5m (1.5 ft) away from any flammable materials (decoration etc.).

Always use and install the supplied safety cable as a safety measure to prevent accidental damage and/or injury in the event the clamp fails.

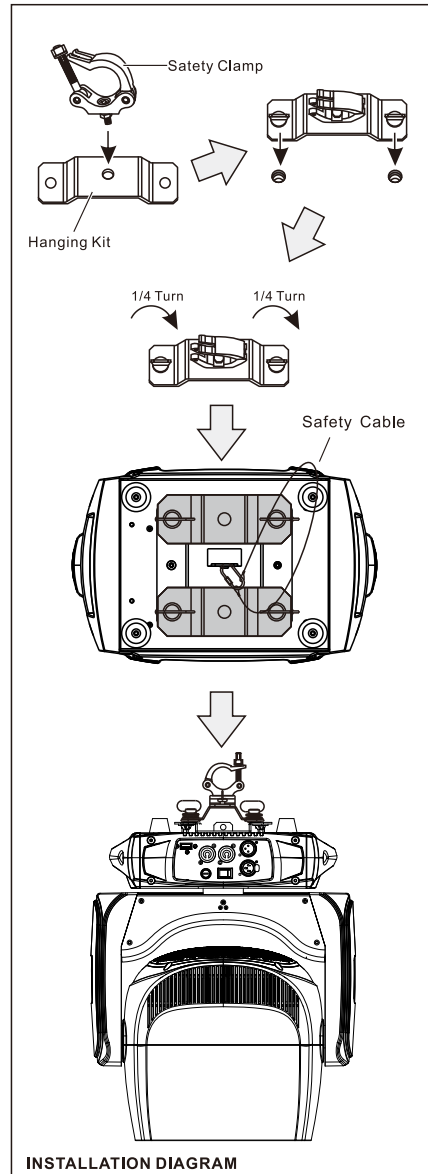
Mounting points:

Overhead mounting requires extensive experience, including amongst others calculating working load limits, a fine knowledge of the installation material being used, and periodic safety inspection of all installation material and the fixture. If you lack these qualifications, do not attempt the installation yourself. Improper installation can result in bodily injury.

Be sure to complete all rigging and installation procedures before connecting the main power cord to the appropriate wall outlet.

Clamp Mounting:

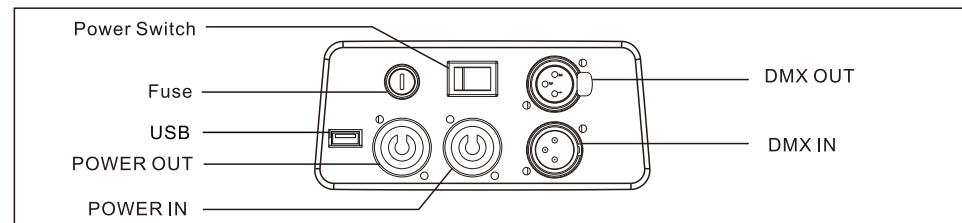
FOS Opera Wash provides a unique mounting bracket assembly that integrates the bottom of the base, and the safety cable rigging point in one unit (see the illustration below). When mounting this fixture to truss be sure to secure an appropriately rated clamp to the included omega bracket using a M10 screw fitted through the center hole of the "Hanging Kit". As an added safety measure be sure to attached at least one properly rated safety cable to the fixture using one of the safety cable rigging points integrated in the base assembly.



21	12	96..97	Lee 154 pale rose
		98..99	Lee 156 Chocolate
		100..101	Lee 164 flame red
		102..103	Lee 170 deep lavender
		104..105	Lee 174 dark steel Lee blue
		106..107	Lee 176 loving amber
		108..109	Lee 179 chrome orange
		110..111	Lee 180 dark lavender
		112..113	Lee 181 congo blue
		114..115	Lee 182 Light Red
		116..117	Lee 194 Surprise Pink
		118..119	Lee 195 zenith blue
		120..121	Lee 200 Double C.T. Blue
		122..123	Lee 201 Full Lee C.T. Blue
		124..125	Lee 202 Half C.T. Blue
		126..127	Lee 203 Quarter C.T. Blue
		128..129	Lee 204 Full Lee C.T. Orange
		130..131	Lee 205 Half C.T. Orange
		132..133	Lee 206 Quarter C.T. Orange
		134..135	Lee 242 Fluorescent 4300 Kevin
		136..137	Lee 249 1/4 minus green
22	13	138..139	Lee 323 jade
		140..141	Lee 328 Follies Pink
		142..143	Lee 343 special Lee medium lavender
		144..145	Lee 345 fuchsia pink
		146..147	Lee 353 lighter blue
		148..149	Lee 506 Marlene
		150..151	Lee 601 Silver
		152..153	Lee 725 Old Steel Lee Blue
		154..155	Lee 728 Steel Lee Green
		156..157	Lee 731 Dirty Ice
23	14	158..159	Lee 765 LEE Yellow
		160..161	Lee 777 rust
		162..163	Lee 795 Magica Lee Magenta
		164..165	Lee 797 Deep Purple
		166..255	No Function
			GELS X-FADE
			Fade from gel 1 to gel 2
		000-255	0 = 100% GEL LIBRARY 1, 0% GEL LIBRARY 2
			128 = 50% GEL LIBRARY 1, 50% GEL LIBRARY 2
			255 = 0% GEL LIBRARY 1, 100% GEL LIBRARY 2
			GEL LIBRARY 2
		0..9	No Function
		10..11	Lee 002 Rose Pink
		12..13	Lee 007 Pale Yellow
		14..15	Lee 015 Deep Straw
		16..17	Lee 019 fire
		18..19	Lee 020 medium amber
		20..21	Lee 021 Gold Amber
		22..23	Lee 022 Dark Amber
		24..25	Lee 025 sunset red
		26..27	Lee 046 Dark Magenta
		28..29	Lee 049 Medium Purple

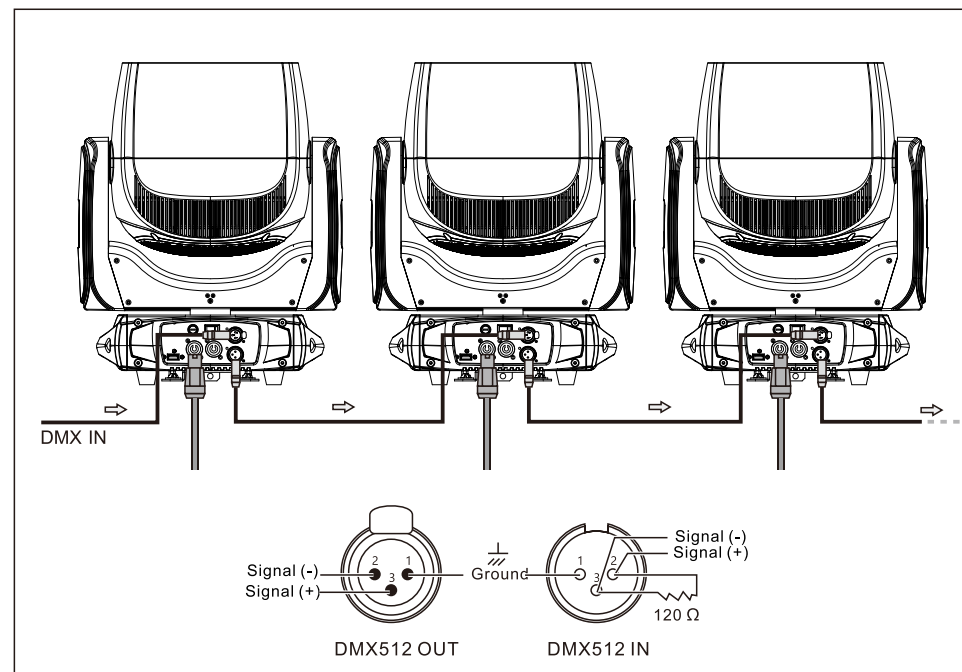
19	11		White
		0..255	0-100% White dimmer from dark to bright
20			White_Fine
		0..255	0-100% White Fine dimmer from dark to bright
21	12		GEL LIBRARY 1
		0..9	No Function
		10..11	Lee 002 Rose Pink
		12..13	Lee 007 Pale Yellow
		14..15	Lee 015 Deep Straw
		16..17	Lee 019 fire
		18..19	Lee 020 medium amber
		20..21	Lee 021 Gold Amber
		22..23	Lee 022 Dark Amber
		24..25	Lee 025 sunset red
		26..27	Lee 046 Dark Magenta
		28..29	Lee 049 Medium Purple
		30..31	Lee 058 Lavender
		32..33	Lee 068 Sky Blue
		34..35	Lee 079 Just Blue
		36..37	Lee 085 Deeper Blue
		38..39	Lee 088 Lime Green
		40..41	Lee 089 moss green
		42..43	Lee 100 Spring Yellow
		44..45	Lee 101 yellow
		46..47	Lee 102 light amber
		48..49	Lee 103 Straw
		50..51	Lee 104 DEEP AMBER
		52..53	Lee 105 Orange
		54..55	Lee 106 primary red
		56..57	Lee 108 English rose
		58..59	Lee 111 dark pink
		60..61	Lee 113 magenta
		62..63	Lee 115 peacock blue
		64..65	Lee 117 SteelBlue
		66..67	Lee 118 Light Blue
		68..69	Lee 119 dark blue
		70..71	Lee 121 lee green
		72..73	Lee 122 fern green
		74..75	Lee 124 dark green
		76..77	Lee 126 mauve
		78..79	Lee 132 Medium Blue
		80..81	Lee 136 Pale Lavender
		82..83	Lee 137 Special lavender
		84..85	Lee 138 Pale Green
		86..87	Lee 139 primary green
		88..89	Lee 142 Pale Violet
		90..91	Lee 147 apricot
		92..93	Lee 151 Gold Tint
		94..95	Lee 152 pale gold

7.CONTROL CONNECTION

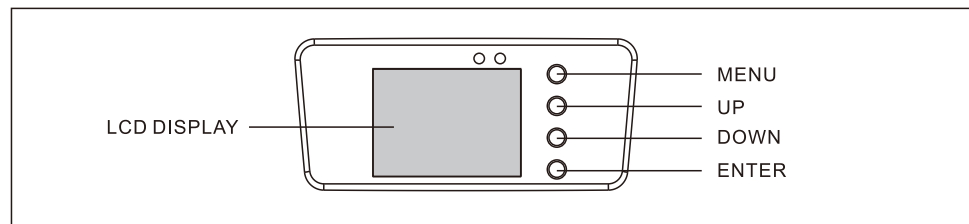


Connect the provided XLR cable to the female 3-pin XLR output of your controller and the other side to the male 3-pin XLR input of the moving head. You can chain multiple Moving head together through serial linking. The cable needed should be two core, screened cable with XLR input and output connectors. Please refer to the diagram below. DMX-512 connection with DMX terminator.

For installations where the DMX cable has to run a long distance or is in an electrically noisy environment, such as in a discotheque, it is recommended to use a DMX terminator. This helps in preventing corruption of the digital control signal by electrical noise. The DMX terminator is simply an XLR plug with a 3 resistor connected between pins 2 and 3, which is then plugged into the output XLR socket of the last fixture in the chain. Please see illustrations below.



8.MENU OPERATIONS



MENU		Description	
Function Mode	DmxAddress	A001~AXXX	
	Channel Mode	35CH	
		26CH	
	AutoRun	Program 1~9	
		State: Master/Alone	
		AutoRun: (On/Off)	
		SlaveDelay:Off/(0.1-3.2s)	
	Music Run	Program 1~9	
		State: Master/Alone	
		MusicRun: (On/Off)	
Option	Reset Default	Yes/No	
	Signal Set	DMX:	XLRDMX
	Pan / Tilt	Reverse Pan	(On/Off)
		Reverse Tilt	(On/Off)
		SelectPan	630/540/360
		Scan Feedback	(On/Off)
	UI SET	Mic sensitivity	0~99%
		OFFSignal Mode	(On/Off)
		DisplayInvert	(On/Off)
		Dimmer Curve	Linear
			S-Curve
Information	Temp erature	XXX°C/°F	
	Software Version	V1.0~V9.9	
Manual Control	Reset	Total Reset	
		Scan Reset	
		Other Reset	
Advanced (AccessCode088)	Channel	PAN=XXX.....	
	Calibration	PAN=XXX.....	
	UID Code	XX XX	
	USB Upgrade		
	Cal CTO	1800K=XXX	

9.DMX PROTOCOL

Mode/Channel		Value	Function
CH35	CH26		
1	1		Pan
		0..255	PAN Movement
2			Pan-fine
		0..255	Fine control of Pan movement
3	2		Tilt
		0..255	Tilt Movement
4			Tilt-fine
		0..255	Fine control of Tilt movement
5	3	0..225	Speed pan/tilt
		226..235	max to min speed
		236..255	blackout by movement
6	4		no function
			Dimmer
7		0..255	Dimmer 0%...100%
			Dimmer Fine
8	5	0..255	Dimmer Fine 0%...100%
			Shutter
		0..31	Shutter closed
		32..63	shutter open
		64..95	Strobe effect slow to fast
		96..127	shutter open
		128..143	Opening pulse in sequences slow to fast
		144..159	Closing pulse in sequences fast to slow
		160..191	shutter open
9	6	192..223	Random strobe effect slow to fast
		224..255	shutter open
10			Red
		0..255	0-100% Red dimmer from dark to bright
11	7		Red_Fine
		0..255	0-100% Red Fine dimmer from dark to bright
12			Green
		0..255	0-100% Green dimmer from dark to bright
13	8		Green_Fine
		0..255	0-100% Green Fine dimmer from dark to bright
14			Blue
		0..255	0-100% Blue dimmer from dark to bright
15	9		Blue_Fine
		0..255	0-100% Blue Fine dimmer from dark to bright
16			Amber
		0..255	0-100% Amber dimmer from dark to bright
17	10		Amber_Fine
		0..255	0-100% Amber Fine dimmer from dark to bright
18			Lime
		0..255	0-100% Lime dimmer from dark to bright
			Lime_Fine
		0..255	0-100% Lime Fine dimmer from dark to bright