SPL-LED-1940IP

User Manual

Please read the instruction carefully before use

CONTENTS

01/ Safety Information

Please keep this User Manual for future consultation. If you sell the unit to another user, be
sure that they also receive this instruction manual.
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.

This product is suitable for wet locations. Do not immerse in water.

DO install and operate by qualified operator.

DO NOT allow children to operate the fixture.

Use safety chain (made of steel, min. diameter 4.0mm) when fixing the unit. Handle the
unit by carrying its base instead of head only.

The unit must be installed in a location with adequate ventilation, at least 50cm from
adjacent surfaces.

Be sure that no ventilation slots is blocked, otherwise the unit will be overheated.

Before operation, ensure that you are connecting this product to the proper voltage in
accordance with the specifications in this manual or on the product's specification label.

It's important to ground the yellow/green conductor to earth in order to avoid electric
shock.

Minimum ambient temperature TA: -10℃. Maximum ambient temperature TA: 40℃. Do
not operate this product at a lower or higher temperature.

DO NOT connect the device to any dimmer pack.

Keep flammable materials away from the fixture while operating to avoid fire hazard.

Make sure the power cord is not crimped or damaged; replace it immediately if damaged.

Unit's surface temperature may reach up to 70℃. 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 operate in a dirty or dusty environment. DO clean the fixture regularly.

DO NOT touch any wire during operation as there might be a hazard of electric

shock.

Avoid entanglement of the power cord with other wires.

The minimum distance to objects/surface must be more than 4 meters.

In the event of serious operating problem, stop using the unit immediately.

Never turn on and off the unit time after time.

The housing, the lenses, or the ultraviolet filter must be replaced if they are visibly damaged.

DO NOT open the housing as there are no user serviceable parts inside.

DO NOT attempt to operate this unit if it becomes damaged. DO NOT attempt any repairs yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center if needed.

Disconnect this product from its power source before servicing.

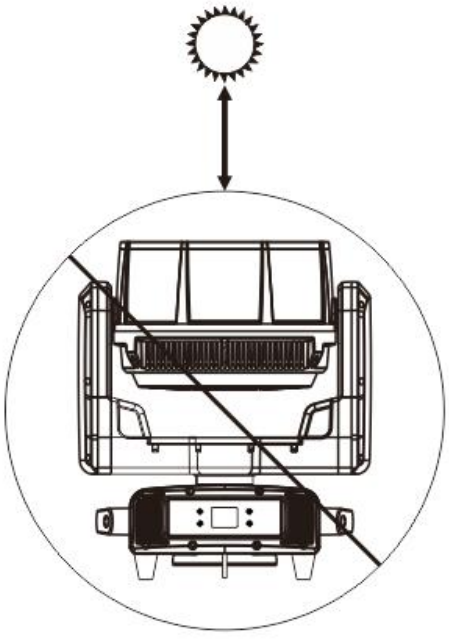
DO use the original packaging if the device is to be transported.

Check that the head tilt lock is released before packing for transportation.

Avoid direct eye exposure to the light source while the product is on.

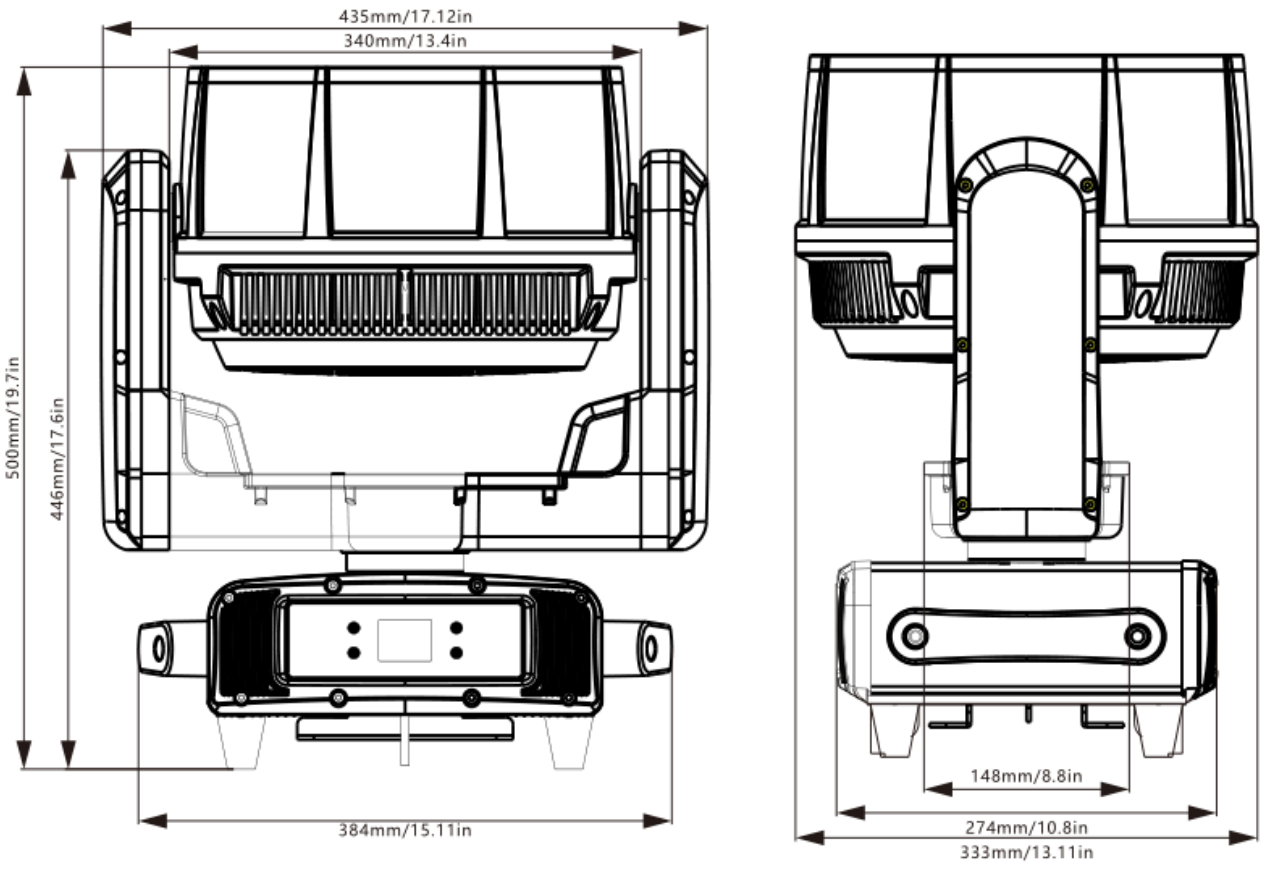
DO NOT operate this product if you see damage on the housing, shields, or cables. Have
the damaged parts replaced by an authorized technician at once.

External sources of light beams from direct sunlight or any other strong light source, which penetrate the front lens of lighting fixtures, can cause severe internal damage. DO
NOT expose the fixture front lens to light beams from direct sunlight or any other strong
light source from any angle while unpacking, installation, use, and extended idle times outdoors. DO NOT focus a light beam from one lighting fixture directly towards another.

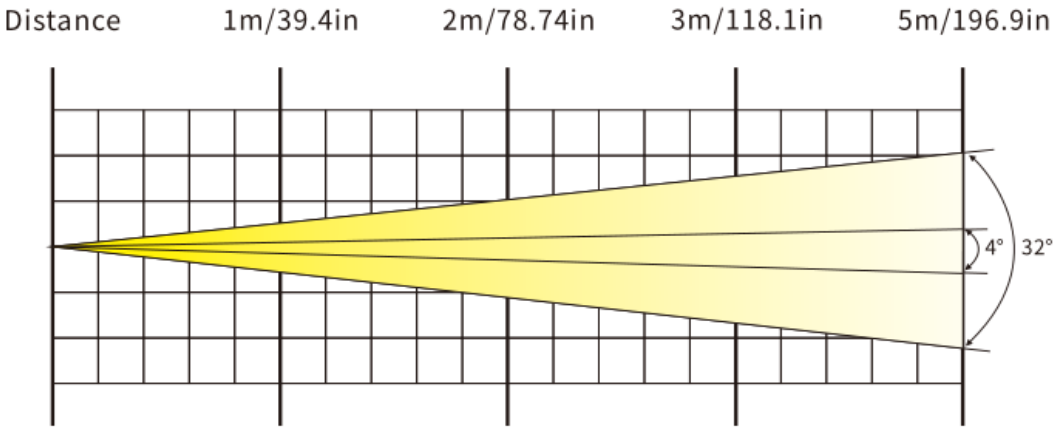


02/ Technical Specifications

Input voltage：AC100-240V 50/60Hz
Power consumptionn：760W
LED type：54*0.2W 5050 RGB
LED QTY：19pc
Average lifespan：50000 hours
Beam angle：4°- 32°
Electronic Dimming：0-100%
Strobe：1S/25
Focus：Yes
Rotate：Yes
Pan：540° 16bits
Tilt：270° 16bits
DMX channel：28CH/30CH/42CH/85CH/99CH/104CH/106CH
Control mode：DMX /RDM
Display mode：LED
IP rating：IP65
Max ambient temp：45°
Product dimension：435*333*500 mm
N.W：21.4kG



Photometric Diagram:



4°(LUX)				
RGBW	250000	158000	107000	40000
R	47000	3200	19000	7500
G	88400	59000	38500	14780
B	2740	1600	1140	481
W	134000	158000	54570	20000
Diameter(m)	0.07	0.14	0.21	0.35

32°(LUX)				
RGBW	76000	18000	11750	4600
R	13000	3600	2085	832
G	28900	7000	4664	1770
B	880	207	188	98
W	40000	9800	6300	2400
Diameter(m)	0.57	1.15	1.72	2.87

03/ Connecting Power and Data

To apply power, first check that the head pan and tilt locks are released.
This fixture can operate on any 180-240Vac; 50/60Hz AC mains power supply.
The maximum power consumption is 760W.
The fixture must be grounded/earthed and able to be isolated from AC power. The AC power
supply must incorporate a fuse or circuit breaker for fault protection.
Wiring and connection work must be carried out by a qualified electrician.
The power cable color coding is given in the figure below:

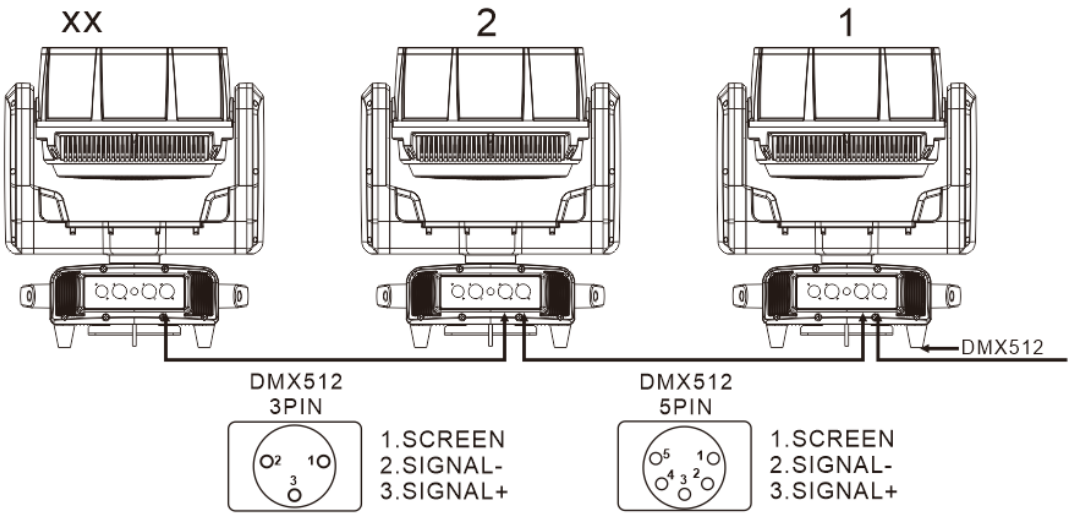
Wire	Color (US)	Wire	Color (EU)	Symbol	Conductor
	black		brown	L	live
	white		blue	N	neutral
	green		yellow/green	⏚ or ⏚	ground (earth)

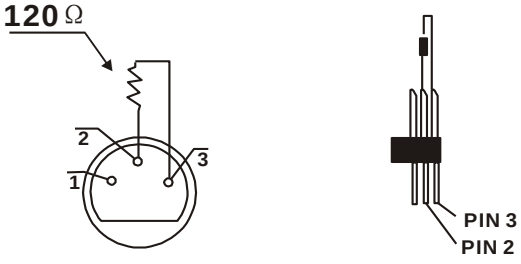
Power cord set should be used: Listed SJOW flexible cord with rating: 300V, 105°C, VW-1,
14AWG x 3C, molded with 5-20P attachment plug and terminated with cord connector model RCAC3F-X-000-01 with rating 250V, 16A by Neutrik Technology (Ningbo) Co., Ltd.
The power cord shall be at least 914mm (It is to be measured from the face of attachment
plug to the face of connector).

CAUTION!
DO NOT CONNECT THE FIXTURE TO AN ELECTRICAL DIMMER SYSTEM AS DOING SO MAY CAUSE DAMAGE.

04/ Connecting Data

The fixture is equipped with 5-pin (or 3-pin) XLR sockets for DMX input and output. Use a
high-quality DMX cable designed for RS-485 and 5-pin (or 3-pin) XLR-plugs and connectors
in order to connect the controller with the fixture or one fixture with another. For outdoor
installations, use only IP-rated XLR connectors suitable for outdoor use.
Building a serial DMX chain:
Connect the DMX data output from the controller to the fixture's data input socket. Connect
the DMX output of the first fixture in the DMX chain with the DMX input of the next fixture.
Always connect one output with the input of the next fixture until all fixtures are connected.
Up to 32 fixtures can be connected to the same DMX link. Terminate the DMX out cable of
the last fixture in the data link with a 120 ohm DMX terminator.





05/ Address Setting

All fixtures should be given a DMX starting address when operating with a DMX controller, in order to ensure that the correct fixture responds to the correct control signal. Incorrect settings will result in unpredictable responses from the lighting controller.

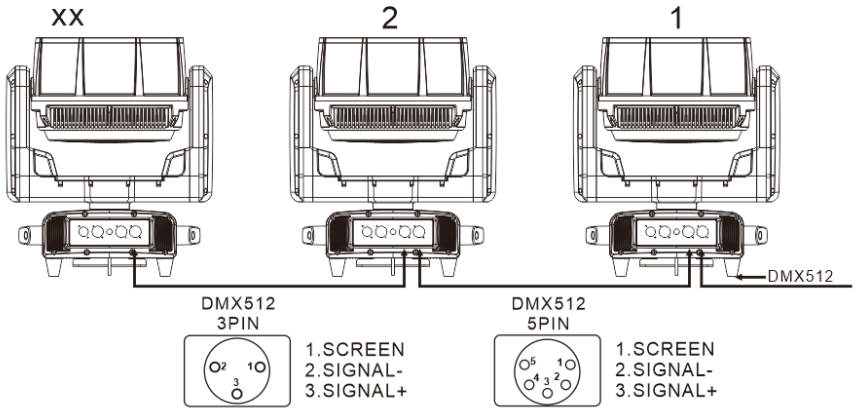
You can set the same starting address for all fixtures or a group of fixtures, or set different addresses for each individual fixture.

Setting all fixtures to the same DMX address will cause all fixtures to react in the same way. In this case, please note that changing the settings of one channel will affect all the fixtures simultaneously.

If you set each fixture to a different DMX address, each unit will "listen" starting at the channel number you have set, based on the quantity of DMX channels of each fixture. That means changing the settings of one channel will only affect the selected fixture.

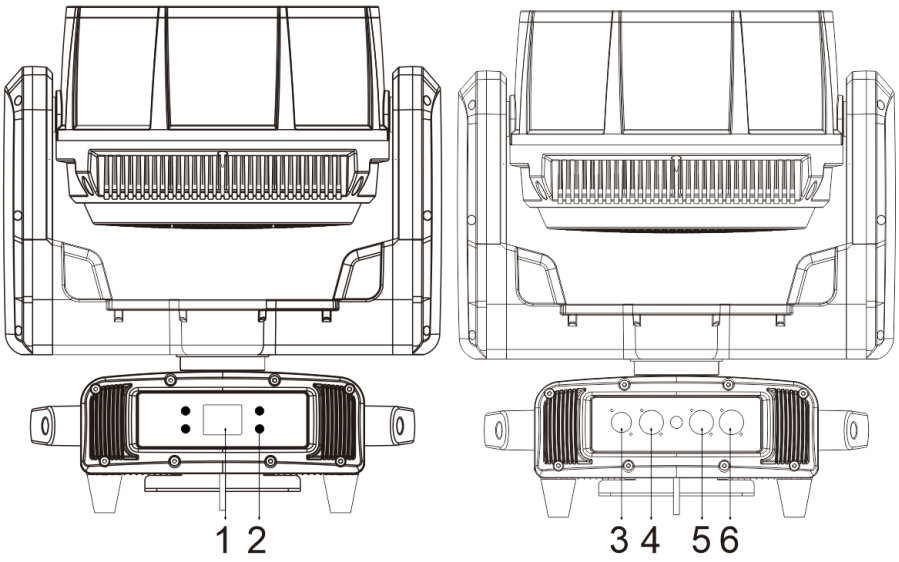
For example, if the first fixture is set to 43 ch DMX mode with a start DMX address of 1, the following fixture in the DMX chain should then be set to a DMX address of 44. As the first fixture uses all the first 43 DMX channels, the next available channel is 44 (43+1=44 >> 44).

See the chart below for more details:



Channel Mode	Unit 1 Address	Unit 2 Address	Unit 3 Address	Unit 4 Address	Unit xxx Address
43 channels	1	44	87	130	……
34 channels	1	35	69	103	……
32 channels	1	33	65	97	……
23 channels	1	24	47	90	……

06/ Overview



● 1. Display	To show the various menus and the selected function	
● 2. Buttons	MENU	To enter into move backward or leave the menu
	UP	To go backward to move up in the menu
	DOWN	To go forward to move down in the menu
	ENTER	To perform the desired functions
● 3. DMX IN	For DMX512 link, use 5-pin XLR cable to link the unit and DMX controller to input DMX signal (optional with 3-pin IP XLR)	
● 4. DMX OUT	For DMX512 link, use 5-pin XLR cable to link the next units to output DMX signal (optional with 3-pin IP XLR)	
● 5.6 POWER IN	To connect to supply power	

07/ Display and operation

Main menu	Sub-MENU	Parameter
DMX Address	001 - 512	Value plus or minus one
DMX Mode	Dmx Select	Channel 28/Channel 30/ Channel 42/Channel 85/ Channel 99/Channel 104/ Channel 106
Stand Alone	Show Mode	Self-propel led program (1-10) Speed70 Auto Program(1-10) Speed 70
	Color Macro	Pan/Tilt//Dimmer/C.M
	CCT Macro	(3000K-7000K) Pan/Tilt//Dimmer/CCT
	Manual Test	LED1-R、LED1-G、LED1-B、LED2-R、LED2-G、LED2-B、LED3-R、LED3-G、LED3-B、LED4-R、LED4-G、LED4-B、LED5-R、LED5-G、LED5-B、LED6-R、LED6-G、LED6-B、LED7-R、LED7-G、LED7-B、LED8-R、LED8-G、LED8-B、LED9-R、LED9-G、LED9-B、LED10-R、LED10-G、LED10-B、LED11-R、LED11-G、LED11-B、LED12-R、LED12-G、LED12-B、LED13-R、LED13-G、LED13-B、LED14-R、LED14-G、LED14-B、LED15-R、LED15-G、LED15-B、LED16-R、LED16-G、LED16-B、LED17-R、LED17-G、LED17-B、LED18-R、LED18-G、LED18-B、

		LED19-R、LED19-G、LED19- Red/Red Fine/Green/Green Fine/Blue/Blue Fine/ White/White Fine/ Linear CTO/Macro Colour/ Strobe/Dimmer/Dimmer Fine /Pan/Pan Fine/Tilt/ Tilt Fine/Function/ Reset/Zoom/Zoom Rotation/ LED1-R、LED1-G、LED1-B、LED2-R、LED2-G、 LED2-B、LED3-R、LED3-G、LED3-B、LED4-R、 LED4-G、LED4-B、LED5-R、LED5-G、LED5-B、 LED6-R、LED6-G、LED6-B、LED7-R、LED7-G、 LED7-B、LED8-R、LED8-G、LED8-B、LED9-R、 LED9-G、LED9-B、LED10-R、LED10-G、LED10- B、LED11-R、LED11-G、LED11-B、LED12-R、 LED12-G、LED12-B、LED13-R、LED13-G、 LED13-B、LED14-R、LED14-G、LED14-B、 LED15-R、LED15-G、LED15-B、LED16-R、 LED16-G、LED16-B、LED17-R、LED17-G、 LED17-B、LED18-R、LED18-G、LED18-B、 LED19-R、LED19-G、LED19-B/ Rope Dimmer/Rope Strobe/ Rope R/Rope G/Rope B/Rope Eff/ Rope Eff SP
System Setup	DMX Fail	Blackout/Auto/Hold
	Dim Freq	1200Hz/2400Hz/3600Hz/4800Hz/6000Hz
	Dim Curve	Exp/Log/Line/S-Curve
	Dim Resp	Led/Halogen
	FAN Mode	Auto/High/Low
	P/T Encoder	ON/OFF

	Invert Pan	ON/OFF
	Invert Tilt	ON/OFF
	Invert Screen	ON/OFF
	Dis Backlight	ON/OFF
	Screen Lock	ON/OFF
	Language	中文/EN
	Pactory Reset	OK
		Cancel
Calibration	Password8888	Lamp calibration
System Info	Err Info	System OK
	Firmware	Display Board Ver30
		Motor Board Ver27
		LED Board Ver52
	OP.Hours	118.7H
	LED.Hours	107.0H
	Temp	26℃

08/ DMX Protoco

CH30.CH106-CHANNEL MODE:

CH30	CH106	Function	Value	Instruction
1	1	X	0-255	
2	2	X fine	0-255	
3	3	Y	0-255	
4	4	Y	0-255	
5	5	XY speed	0-255	From fast to slow
6	6	Zoom	0-255	Small to big
7	7	Lens rotation	0-127	0~60°
			128-188	Endless rotation from fast to slow
			189-193	stop
			194-255	Endless rotation from slow to fast
8	8	Total dimmer	0-255	0-100%
9	9	Strobe	0-3	on
			4-200	From slow to fast (1HZ-25HZ)
			201-215	Low speed random strobe
			216-234	middle speed random strobe
			235-255	high speed random strobe
10	10	Red	0-255	0-100%
11	11	Green	0-255	0-100%
12	12	Blue	0-255	0-100%

13	13	Whit	0-255	0-100%
14	14	Color temp adjust	0-255	3200K-6500K
15	15	Marco color	0-255	Inner color change
16	16	Static effect	0-9	no function
			10-14	Effect1
			15-19	Effect 2
			20-24	Effect 3
			...	
			Every 5 datas as one effect	
			...	
			175-179	Effect 34
			180-184	Effect 35
			185-255	Effect 36
17	17	Dynamic effect	0-9	no function
			10-14	Effect 1
			15-19	Effect 2
			20-24	Effect 3
			...	...
			Every 5 datas as one effect	
			220-224	Effect 43
			225-229	Effect 44
			230-255	Effect 45
18	18	Dynamic effect speed	0-126	From fast to slow
			127-128	stop

			129-255	From slow to fast
19	19	Background red	0-255	0-100%
20	20	Background green	0-255	0-100%
21	21	Background blue	0-255	0-100%
22	22	Background white	0-255	0-100%
23	23	Reset	0-25	No function
			26-76	Head reset after 5s
			77-127	XY reset after 5s
			128-255	All reset after 5s
	24	Red 1 led dimmer	0-255	Red 1 led dimmer
	25	Green 1 led dimmer	0-255	Green 1 led dimmer
	26	Blue 1 led dimmer	0-255	Blue 1 led dimmer
	27	Whit 1 led dimmer	0-255	Whit 1 led dimmer
	...	...	.....	.....
	...	...	.....	.....
	96	Red 19 led dimmer	0-255	Red 19 led dimmer
	97	Green 19 led dimmer	0-255	Green 19 led dimmer
	98	Blue 19 led dimmer	0-255	Blue 19 led dimmer
	99	Whit 19 led dimmer	0-255	Whit 19 led dimmer
24	100	SMD LED Dimming	0-255	0-100%
25	101	SMD LED strboe	0-4	no
			5-250	Strobe speed from slow to block

			251-255	no
26	102	Red 1 led dimmer	0-255	0-100%
27	103	Green 1 led dimmer	0-255	0-100%
28	104	Blue 1 led dimmer	0-255	0-100%
29	105	SMD led rings	0-11	No function
			12-13	Red
			14-15	Green
			16-17	Blue
			18-19	Red + Green
			20-51	Two numerical values and a color mixing effect
			52-255	Dynamic effect
30	106	Dynamic effect speed	0-255	From fast to slow

CH28.CH42. CH85.CH99. CH104-CHANNEL MODE:

CH28	CH42	CH85	CH99	CH104	Function	Value	Instruction
1	1	1	1	1	Red	0-255	0-100%
2	2	2	2	2	Red fine	0-255	
3	3	3	3	3	Green	0-255	0-100%
4	4	4	4	4	Green fine	0-255	
5	5	5	5	5	Blue	0-255	0-100%
6	6	6	6	6	Blue fine	0-255	
7	7	7	7	7	white	0-255	0-100%
8	8	8	8	8	White fine	0-255	
9	9	9	9	9	Color temp	0-255	

					adjust		
10	10	10	10	10	Color macro	0-255	Inner color change
11	11	11	11	11	Strobe	0-3	open
						4-200	From slow to fast
						201-225	Low speed random strobe
						226-234	middle speed random strobe
						235-255	high speed random strobe
12	12	12	12	12	Total dimmer	0-255	0-100%
13	13	13	13	13	Total dimmer fine	0-255	
14	14	14	14	14	X	0-255	pan
15	15	15	15	15	X fine	0-255	Pan fine
16	16	16	16	16	Y	0-255	Tilt
17	17	17	17	17	Y fine	0-255	Tilt fine
18	18	18	18	18	Marco function	0-255	No function
19	19	19	19	19	Reset	0-25	No function
						26-76	Head reset after 5s

						77-127	XY reset after 5s
						128-255	full reset after 5s
20	20	20	20	20	Zoom	0-255	0-100%
21	21	21	21	21	Lens rotation	0-127	0-60 degrees
						128-188	Endless rotation from fast to slow
						189-193	Stop
						194-255	Endless rotation from slow to fast
/	22	/	22	/	Inner effect	0-7	No function
						8	Static effect 1
						9	Static effect 2
						10	Static effect 3
						11	No function
						12	Static effect 4
						13	Static effect 5
						14	No function
						15	Dynamic effect 1
						16	Dynamic effect 2
						17	Dynamic effect 3
						18	Dynamic effect 4
						19	Single color random
						20	Full color random
						21	Rainbow effect 1
						22	Rainbow effect 2

						23	Dynamic effect 5
						24	Dynamic effect 6
						25	Dynamic effect 7
						26	Dynamic effect 8
						27	Dynamic effect 9
						28	Dynamic effect 10
						29	Dynamic effect 11
						30	Dynamic effect 12
						31	Dynamic effect 13
						32	Dynamic effect 14
						33	No function
						34	No function
						35	Dynamic effect 15
						36	Dynamic effect 16
						37	Dynamic effect 17
						38	Dynamic effect 18
						39	Dynamic effect 19
						40	Dynamic effect 20
						41	No function
						42	Dynamic effect 21
						43	No function
						44	Dynamic effect 22
						45	Dynamic effect 23
						46	Dynamic effect 24

						47	Dynamic effect 25
						48	Dynamic effect 26
						49	Dynamic effect 27
						50	Dynamic effect 28
						51	Dynamic effect 29
						52	Dynamic effect 30
						53	Dynamic effect 31
						54	Dynamic effect 32
						55	Dynamic effect 33
						56	Dynamic effect 34
						57	Dynamic effect 35
						58	Dynamic effect 36
						59	Dynamic effect 37
						60	Dynamic effect 38
						61	Random position 1
						62	Random position 2
						63	Random position 3
						64	No function
						65	Random position 4
						66	Random position 5
						67	Dynamic effect 39
						68	Dynamic effect 40
						69	No function
						70	Dynamic effect 41

						71-255	No function
	23		23		Effect speed	0-63	Static effect
						64-158	**Flow slow to fast**
						159-160	**Dynamic effect desalting**
						161-255	Flow slow to fast
	24		24		Effect desalting	0-255	Dynamic effect desalting
	25		25		Effect red	0-255	Dynamic effect red
	26		26		Effect green	0-255	Dynamic effect green
	27		27		Effect blue	0-255	Dynamic effect blue
	28		28		Effect white	0-255	Dynamic effect white
	29		29		Effect dimmer	0-255	0-100%
	30		30		Background dimmer	0-255	0-100%
	31		31		Effect transition	0-255	Patterns change
	32		32		Effect replenish	0-255	Patterns moving
	33		33		Forecolor strobe	0-255	Same with CH11

	34		34		Background strobe	0-255	Same with CH11
	35		35		Background option	0-255	
	/	22	36	22	R1 LED dimmer	0-255	0-100%
		23	37	23	G1 LED dimmer	0-255	0-100%
		24	38	24	B1 LED dimmer	0-255	0-100%
				25	W1 LED dimmer	0-255	0-100%
		25	39	26	R2 LED dimmer	0-255	0-100%
		…			…	0-255	……
		76	91	94	R19 LED dimmer	0-255	0-100%
		77	90	95	G19 LED dimmer	0-255	0-100%
		78	92	96	B19 LED dimmer	0-255	0-100%
		/	/	97	W19 LED dimmer	0-255	0-100%
22	36	79	93	98	Color temp adjust	0-255	0-100%
23	37	80	94	99	Strobe	0-4	On

						5-250	Flow slow to fast
						251-255	On
24	38	81	95	100	Red	0-255	0-100%
25	39	82	96	101	Green	0-255	0-100%
26	40	83	97	102	Blue	0-255	0-100%
27	41	84	98	103	Effect	0-11	No function
						12-13	Red
						14-15	Green
						16-17	Blue
						18-19	Red+Green
						20-51	Two numerical values and a color mixing effect
						52-255	Dynamic effect
28	42	85	99	104	Dynamic effect speed	0-255	From fast to slow

09/ Troubleshooting

Problem	Potential cause(s)	Remedies
Fixture does not respond or appears to be off.	No power to the fixture.	Confirm that the power is switched on and cables are plugged in.
	No output from PSU.	Replace the PSU.
Fixture suddenly turned off.	Power was turned off.	Check the power supply, switches and breakers
Light output cuts out intermittently.	Fixture is too hot.	Check fixture's stored error messages for more information. Allow fixture to cool. Clean fixture. Reduce ambient temperature.
Fixture suddenly stopped responding.	DMX cables were disconnected.	nspect DMX cables.
Fixture operates irregularly / abnormal.	Incorrect DMX address or DMX mode.	Inspect and enter the correct DMX address or mode
	DMX link is not terminated.	Install a XLR 120ohm DMX termination at the end of the DMX link.
	Bad data link.	Replace or repair defective cables and/or connections
	One of the fixtures is defective and is disturbing data transmission on the link.	Track and isolate the corrupted fixture. Have the fixture serviced by a qualified technician.
Pan / tilt is skipping / shuddering	Pan/ tilt locks are not released.	Release the pan / tilt locks
	Obstacles are within the required pan / tilt clearance.	Inspect and remove any obstacles constraining free operation of the pan / tilt.
	The Hall element is damaged	Replace the Hall element
	The magnetic steel fell out	Replace the magnetic steel

10/ Fixture Cleaning

Regular cleaning is very important for fixture life and performance. Buildup of dust, dirt,
smoke particles, fog fluid residues, etc. degrades the fixture's light output and cooling ability.
Cleaning schedules for lighting fixtures vary greatly depending on the operating environment.
It is therefore impossible to specify precise cleaning intervals for the fixture. Environmental
factors that may result in a need for frequent cleaning include:

Use of smoke or fog machines.

High airflow rates (near air conditioning vents, for example).

Airborne dust (from stage effects, building structures and fittings or the natural environment at outdoor events, for example).

If one or more of these factors is present, inspect fixtures within their first few hours of operation to see whether cleaning is necessary. Check again at frequent intervals. This procedure will allow you to assess cleaning requirements in your particular situation.
Follow these precautions when cleaning the fixture:

Work in a clean, dry, well-lit area.

Use gentle pressure only. A soft lint-free cloth dampened with a solution of water and a
mild detergent is recommended, under no circumstances should alcohol, solvents or abrasives be used! Use care when cleaning optical components: surfaces are fragile and
easily scratched.