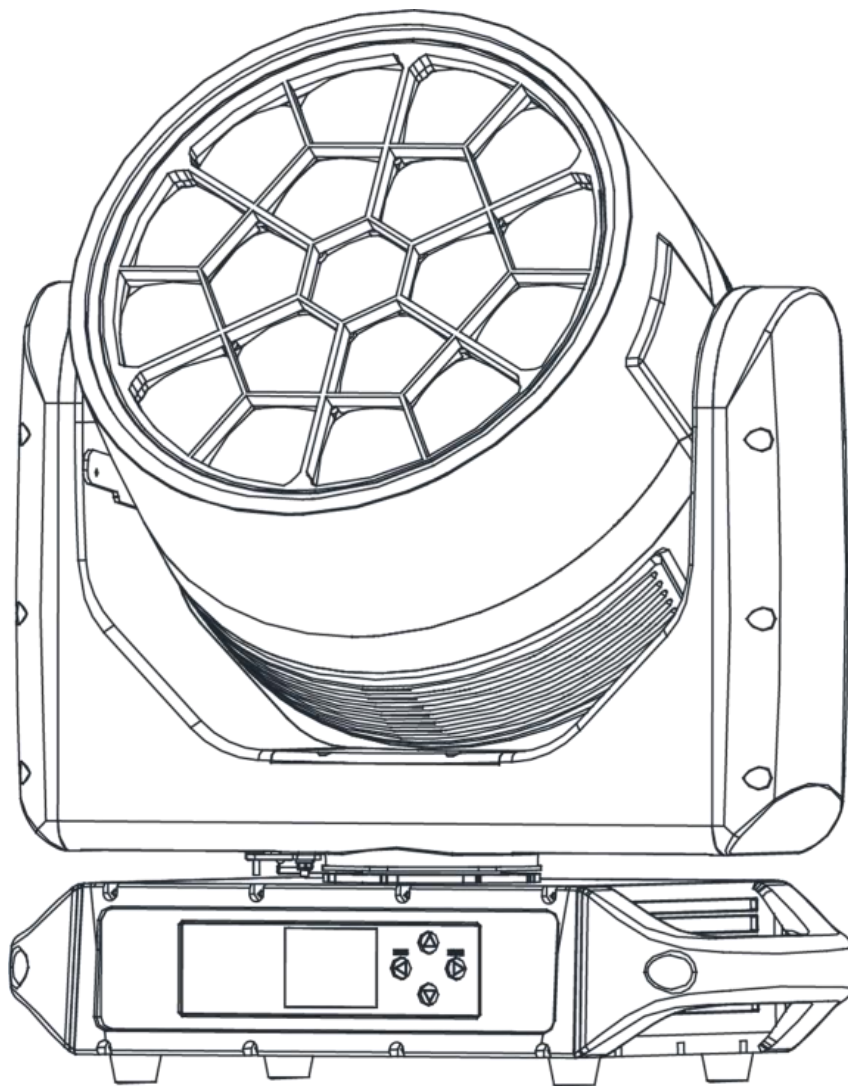


**LEDING**



VORTEX 19M

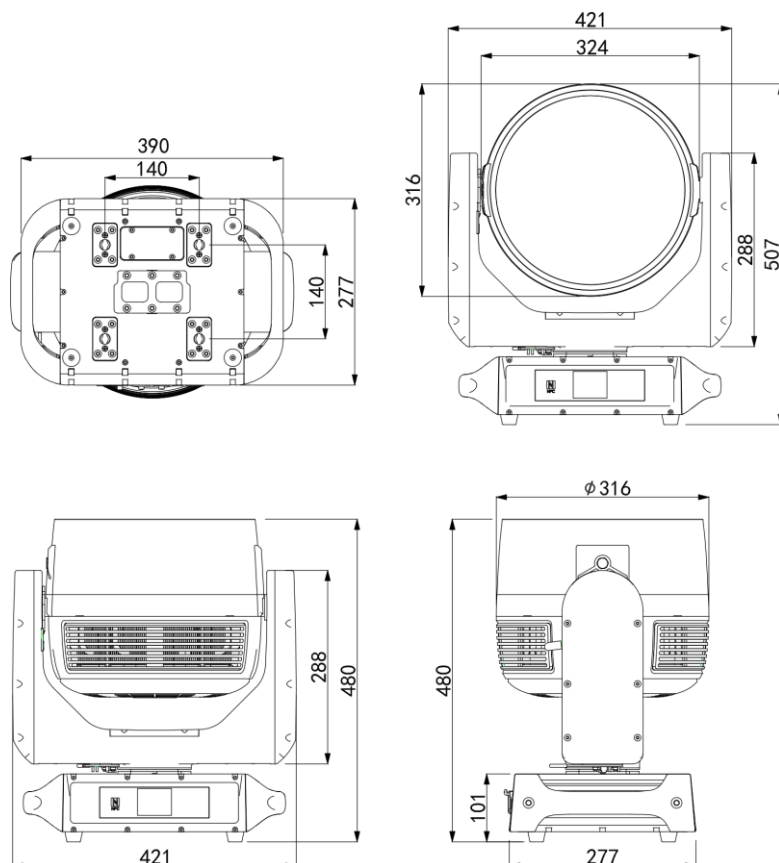
USER MANUAL

1 PRODUCT

1.1 TECHNICAL SPECIFICATIONS

LED colors	15PCS*90W RGBL LED
Angle	Beam Angle: 3.5°~38°, Field Angle: 5°~ 60°
Power	1000W
Control Protocol	DMX512,RDM,ARTNET,SACN,Bluetooth,NFC,W-DMXs(optional)
Voltage Range	100-240V~
Frequency Range	50/60Hz
Input Current	110V/9A,220V/4.5A
Protection	IP65
Operation Temperature	-20°C~45°C
Dimensions	421x316x480mm
Weight	21.6kg

DIMENSIONS



1.2 Safety Notes

IMPORTANT

- This product must be installed by a qualified professional.
- 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
- 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.

CAUTION!

- Make sure that the available voltage is not higher than stated on the rear panel.
- Do not touch the power cables if your hands are wet.
- The earth wire must always be connected to the ground. Therefore it is essential to connect the yellow/green conductor to earth.
- 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. The electric connection, repairs and servicing must be carried out by a qualified employee.
- Always disconnect power input cable to completely remove power from unit when not in use or before cleaning or servicing the fixture.
- Do not switch the fixture on and off in short intervals as this would reduce the LED's life.
- Do not touch the device's housing bare hands during its operation (housing becomes hot)! The surface of the product's casing can reach up to 65° C (149° F) during operation. Avoid contact by persons and materials. Do not install the product in a location where there is a risk of accidental contact. Allow the product to cool for at least 10 minutes before handling.
- For replacement use lamps and fuses of same type and rating only.
- Please protect the fixture and avoid destroy during transport and installation. If there is any damage to the coating, the shell may be corroded.
- When hanging LEDs and lanterns, it is necessary to verify that facilities and hooks can bear at least 10 times the weight of lamps and lanterns.
- Fix the safety rope at the correct holes only. Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.
- The maximum ambient temperature 45°C must never be exceeded. Do not operate the product if the ambient temperature (Ta) exceeds 45° C (115° F).
- 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.

Electrical Warning

- The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person
- For replacement use lamps and fuses of same type and rating only.
- The lens has to be replaced when it is obviously damaged, so that its function is impaired, e. g. due to cracks or deep scratches!

Keep the product well away from flammable materials

- Keep all combustible materials (e.g. fabric, wood, paper) at least 500 mm (20 in.) away from the product.
- Ensure that there is free and unobstructed airflow around the product. Provide a minimum clearance of 150 mm (6 in.) around fans and air vents.
- Do not illuminate surfaces within 1 m (3.2ft.) of the product.
- Do not install a fuse that has a higher rating than the one originally installed in the product. Do not bypass fuses.
- Do not stick filters, masks or other materials onto optical components.
- If the fixture seems to be abnormally hot, shows signs of melting or emits smoke, disconnect the fixture from power immediately and allow it to cool. Do not touch the fixture without heatproof safety gloves. Keep the fixture well away from combustible and flammable materials.

**NEVER LOOK DIRECTLY INTO THE LIGHT SOURCE!
RETINA INJURY RISK - MAY INDUCE BLINDNESS!**

Do not point the front of the fixture towards the sun or other strong light sources. The front lens focuses and concentrates light just like a magnifying glass. Strong light can cause internal damage to the fixture, melting components or starting an internal fire within seconds.

To avoid problems from strong light sources:

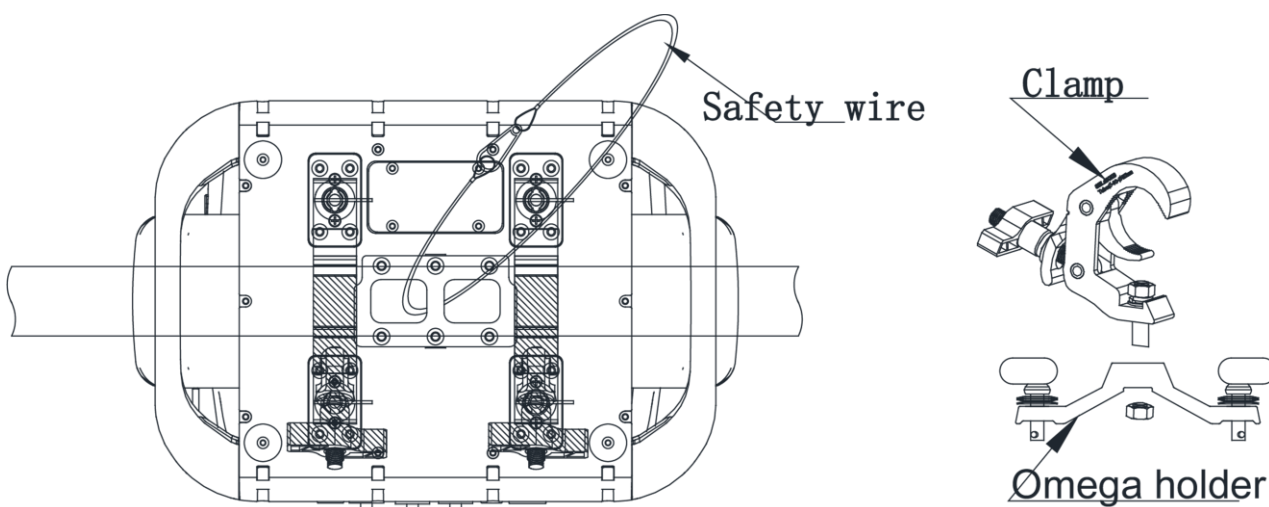
- Do not expose the front of a fixture to sunlight or any other strong light source. Avoid pointing other high-powered beam lights directly at the fixture.
- Do not focus a light beam from one lighting fixture directly towards another.
- For outdoor applications during daylight, make sure that the front face of any fixture is shielded or points away from the sun, even when not in use.
- Do not expose the product to heat (from other lighting fixtures for example).

2 INSTALLATION

2.1 MOUNTING

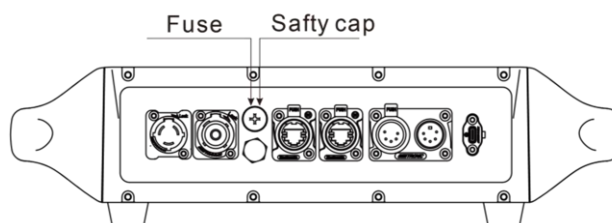
Truss installation

- ◆ Keep all combustible materials (e.g. fabric, wood, paper) at least 500 mm (20 in.) away from the product.
- ◆ For overhead use, always install a safety cable that can hold at least 10 times the weight of the fixture.
- ◆ For overhead installation, the fixture must be always secured with a safety wire that can bear at least 10 times the weight of the fixture;
- ◆ Secure the fixture with a safety cable through the rear safety eye and truss as shown..
- ◆ Ensure that the structure (truss) to which you are attaching the fixture is secure



2.2 Fuse replacement

- ◆ Remove the safety cap by a screwdriver.
- ◆ Fetch the old fuse from safety cap.
- ◆ Install a new fuse.
- ◆ Install the safety cap.



2.3 POWER CONNECTIONS

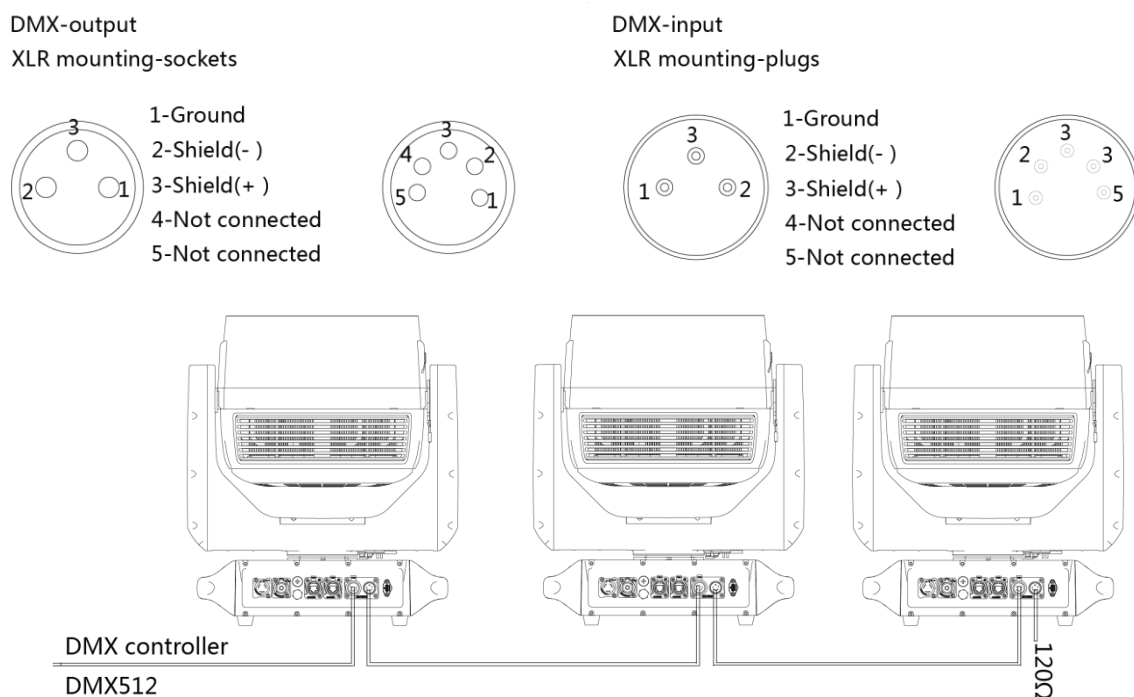
- ◆ POWER Linking: 2 units@110V; 4 units@220V.
- ◆ This product has an auto-ranging power supply that can work with an input voltage range of 100–240 VAC, 50/60 Hz.

AC Plug

Connection	Wire (U.S.)	Wire(Europe)	Screw Color
AC Live	Black	Brown	Yellow/Brass
AC Neutral	White	Blue	Silver
AC Ground	Green/Yellow	Green/Yellow	Green

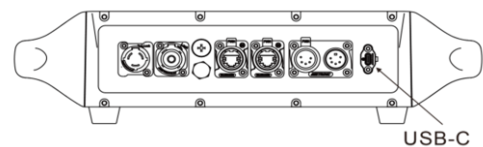
2.4 Data network requirements

- ◆ Connect the DMX512 controller to the units in series. A DMX 512 data link is required in order to control the fixture via DMX. The fixture has 3/5-pin XLR connectors for DMX data input and output.
- ◆ Each unit has N DMX channels so the DMX Addresses should increase by increments of 1, (Nx1)+1, (Nx2)+1, (Nx3)+1...
- ◆ Any DMX address in the range from 001 to 512 may be used.
- ◆ 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.
- ◆ Caution: At the last fixture, the DMX-cable has to be terminated with a terminator. Solder a 120 Ω resistor between Signal (-) and Signal (+) into a 3/5-pin XLR-plug and plug it in the DMX-output of the last fixture.



2.5 Update software

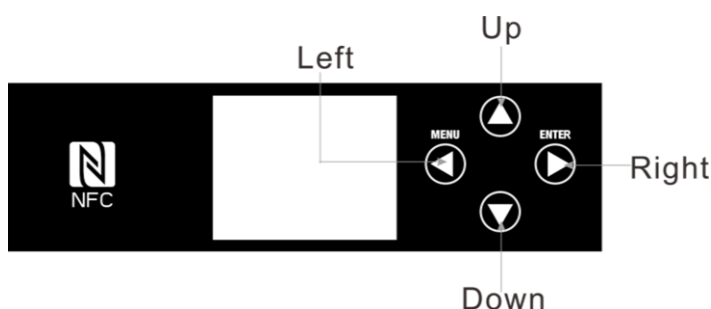
- ◆ Steps of updating software with USB-C interface:
 1. Insert USB-C U dish into USB-C interface
 2. After finding "Upgrade Software" in the menu, Find the corresponding software and click OK



3 FUNCTIONS AND SETTINGS

3.1 DISPLAY OPERATION

- ◆ LEFT: Used to access the menu or to return a previous menu option;
- ◆ RIGHT: Used to select and store the current menu or confirm the current function value or option within a menu;
- ◆ UP: Navigates downwards through the menu list and increases the numeric value when in a function;
- ◆ DOWN: Navigates upwards through the menu list and decreases the numeric value when in a function;
- ◆ When the display locked, please unlock the display as below:
 1. Keep pressing BACK around 5sec, until the display shows inset password.
 2. Press “up down up down, enter” to unlock.



3.2 Menu Map

ADDRESS	001 – 512(Default 001)	DMX address setting	
PERSON	HSIC	Use the menu to select desired channel mode	
	SSP		
	TOUR(Default)		
	TR16		
	CMY		
	PIXEL		
RUNMODE	DMX512 (Default)	Select Signal	
	ARTNET	Default: DMX512	
	ARTNET2DMX	CUSTOM 1-2 Set up get into EDIT	
	sACN	MENU edit	
	AUTO		
	CUSTOM1		
	CUSTOM2		
OPTION	PAN	NORMAL(Default)	PAN moving direction selection
	INVERT	INVERT	
	TILT	NORMAL(Default)	TILT moving direction selection
	INVERT	INVERT	
	PERFORM	STUDIO	Fan mode low speed
		POWER	Fast rotation of fan, all power
		LIVE (Default)	Automatic rotation of fan
	BLACKOUT	OFF (Default)	Select OFF blackout without delay

		ON		Select ON Blackout delay 3s
PT ENCODER		OFF(Default)		XY Encoder switch.
		ON		OFF is close; ON is open.
DIMMER		DIM4 (Default)		Dimming speed OFF (fast) to DIM4 (slow);
		DIM3		
		DIM2		
		DIM1		
		OFF		
DIMMER CURVE		LINEAR		Dimmer curves selection
		SQUARE LAW(Default)		
		INV. SQUARE LAW		
		S-CURVE		
LED PWM		1200Hz (Default)		Sets the PWM frequency
		2400Hz		
		4000Hz		
		6000Hz		
		25000Hz		
DMX ERROR		SAVE (Default)		Hold after loss of DMX signal
		BLACK		Blackout after loss of DMX signal
DISPLAY TIME		On		Display backlight always on
		30s		Turns off display backlight after 30s/1min/2min of inactivity
		1min (Default)		
		2min		
DISPLAY LOCK		OFF		Locks display (passcode is <UP>, <DOWN>,<UP>, <DOWN>, <ENTER>)
		ON (Default)		
LOAD PARA		OFF(Default)		Upload data
		ON		Not upload data
SETTING		RECOVERY	****	Restore default factory settings.
		CLEAN EDIT1	****	Clean customer self-editing scene 1
		CLEAN EDIT2	****	Clean customer self-editing scene 2
		WDMX HIDE	YES	Hide wireless mode WDMX reset and signal hide and the default is wired mode only
	NO			
Color Cali		OFF (Default)		Full power mode
	User Calibration	RED	0-255	Manual calibration mode
		GREEN	0-255	
		BLUE	0-255	
		LIME	0-255	
	Factory Calibration		Factory calibration mode	
WDMX RESET		YES		Do not clear the receiver's message.
		NO		Clear the receiver's message
SIGNAL		ONLY XLRDMX(Default)		ONLY XLR is wire only
		ONLY WDMX		ONLY WDMX is wireless only
		WDMX TO XLRDMX		WDMX TO DMX is wireless to wired
NETWORK	NET SWITCH	2.xxx.xxx.xxx/		Net switch off IP mode

			10.xxx.xxx.xxx			
		UNIVERS	0-255		Packet group Settings	
		IP MODE	DEFAULT IP		Default IP	
			CUSTOM IP		Customer's IP	
	CUSTOM IP	XX.XX.XX.XX		Customer's IP setting		
	WIRELESS	WIFI	WIFIMODE	STATION		WiFi settings
				AP		
				SMART		
			SSID	YJSS9681		
			PASSWORD	yj000001		
			LOCAL IP	xxx:xxx:xxx:xxx		
			REMOTE_IP	xxx:xxx:xxx:xxx		
			MAC	xx:xx:xx:xx:xx:xx		
			WIFI	NO		
RESTART			YES			
WIFI	NO					
	DEFAULT YES					
BLUETOOTH	MAC	xx:xx:xx:xx:xx:xx		Bluetooth Settings		
	NAME	YJSS9681				
LANGUAGE	****	Chinese		LANGUAGE		
		English(Default)				
EDIT	EDIT 1-2	STEP 1-30	PAN	0-255	Edit the custom programs1-30 Select play 【EDIT 1】 in RUNMOEDE CUSTOM 1; Select play 【EDIT 2】 in RUNMOEDE CUSTOM 2	
			TITL	0-255		
			ZOOM	0-255		
			RED	0-255		
			GREEN	0-255		
			BLUE	0-255		
			LIME	0-255		
			STROBE	0-255		
			PRESET COLOR	0-255		
			CCT	0-255		
			STATIC PIXEL	0-255		
			PIXEL EFFECT	0-255		
			RING RED	0-255		
			RING GREEN	0-255		
			RING BLUE	0-255		
TIME	0-255					
USE	YES/NO	Select YES to run the steps user need.				
MANUAL	Auto Test			Auto Test channel		
	CHANNEL	PAN	0-255	Manual control channel		
		TITL	0-255			
		ZOOM	0-255			
		RED	0-255			
		GREEN	0-255			
		BLUE	0-255			

		LIME	0-255	
		STROBE	0-255	
		PRESET COLOR	0-255	
		CCT	0-255	
		STATIC PIXEL	0-255	
		PIXEL EFFECT	0-255	
		RING RED	0-255	
		RING GREEN	0-255	
		RING BLUE	0-255	
	CCT	1800K		Preset color temperatures
		2200K		
		2700K		
		3000K		
		3200K		
		4000K		
		4500K		
		5000K		
		5600K		
		6000K		
		6500K		
		7000K		
		8000K		
		10000K		
	PRESET COLOR	COLOR 1		Preset color (See Annex I for details)
		COLOR 2		
		...		
		COLOR 24		
	CMY	CYAN		Cyan、Magenta、Yellow color
		MAGENTA		
		YELLOW		
C+M				
C+Y				
M+Y				
DEBUG HIDE	NO		Factory testing mode. All stepper motors are not controlled by signal, It only works again after the reset.	
	YES			
RESET	ALL RESET		Select Yes/No to carry out all reset	
	PT RESET		Select Yes/No to carry out P/T reset	
	OTHER		Zoom/ Focus/ Prism reset	
SERVICE	****	PAN	±127	Pan position fine adjustment
		TILT	±127	Tilt position fine adjustment
		ZOOM	±127	Zoom position fine adjustment
INFO	FIXTURE HOURS		Hours of fixture use	
	LED USE HOURS		LED use time	
	TEMPERATURE		LED temperature	

	VERSION		Software versions	
	RDM	UID	0x388Axxxxxxx	Check fixture's ID
		LABEL		Check fixture's LABEL
	SYSTEM ERROR	MEMORY IC		Memory IC
		ANGLESENSOR		Angle Sensor
		PAN SENSOR		Pan Sensor
		PAN ENCODER		Pan Encoder
		PAN DRIVEIC		Pan Drive IC
		TILT SENSOR		Tilt Sensor
		TILT ENCODER		Tilt Encoder
		TILT DRIVEIC		Tilt Drive IC
TEMPERATURE		Temperature		
UPDATE SOFTWARE			USB-C Update software	
All passwords of this product are: <UP>, <DOWN>,<UP>, <DOWN>, <ENTER>				

4 USING A DMX512 CONTROLLER

4.1 DMX CONTROL

HSIC (27CH)	Value	Function
1	0-255	PAN
2	0-255	PAN FINE
3	0-255	TILT
4	0-255	TILT
5	0-255	TILT FINE
6	0-255	INTENSIYT
7	0-255	HUE
8	0-255	HUE FINE
9	0-255	SATURATION
10	CCT	
	0-9	NO FUNCTION
	10	1800K
	25	2200K
	40	2700K
	55	3000K
	70	3200K
	85	4000K
	100	4500K
	115	5000K
	130	5600K
	145	6000K
	160	6500K
	175	7000K
	190	8000K
	205	10000K
255	10000K	
11	STROBE	
	0-9	NO FUNCTION
	10-99	STROBE FROM (SLOD TO FAST , 0-25Hz)
	100-109	NO FUNCTION
	110-179	LIGHTNING STROBE
	180-189	NO FUNCTION
	190-255	RANDOM STROBE
12	0-255	ZOOM
13	0-255	RED RING (front)
14	0-255	GREEN RING (front)
15	0-255	BULE RING (front)
16	Ring Color Presets (front)	
	000-009	Open
	010-014	RED
	015-019	GREEN

	020-024	BLUE
	025-029	Yellow
	030-034	Magenta
	035-039	Cyan
	040-044	WHITE
	045-049	Violet blue
	050-054	Light blue
	055-059	Wine red
	060-064	May green
	065-069	Reseda green
	070-074	Blue lilac
	075-079	Moss green
	080-084	Signal violet
	085-089	Red lilac
	090-094	Purple red
	095-099	Green brown
	100-104	Pale green
	105-109	Ruby red
	110-114	Flame red
	115-119	Red orange
	120-124	Rose
	125-129	Honey yellow
	130-134	Light Pin
	135-139	Deep orange
	140-144	Lemmon
	145-149	Golden yellow
	150-154	Pastel orange
	155-159	Cream
	160-164	Melon yellow
	165-169	Luminous orange
	170-174	Luminous ellow
	175-179	Open
	180-248	Stop
	249-255	Open
17	Color FX (front)	
	0-9	Open
	10-23	FX1
	24-37	FX2
	38-51	FX3
	52-65	FX4
	66-79	FX5
	80-93	FX6
	94-107	FX7
	108-121	FX8
	122-135	FX9
	136-149	FX10

	150-163	FX11
	164-177	FX12
	178-191	FX13
	192-205	FX14
	206-219	FX15
	220-233	FX16
	234-247	FX17
	248-255	Open
18	0-255	Ring Speed(SPEED 1 → 100%)
19	0-255	Ring Dimmer (front)
20	0-255	RED RING (side)
21	0-255	GREEN RING (side)
22	0-255	BULE RING (side)
23	Ring Color Presets (side)	
	000-009	Open
	010-014	RED
	015-019	GREEN
	020-024	BLUE
	025-029	Yellow
	030-034	Magenta
	035-039	Cyan
	040-044	WHITE
	045-049	Violet blue
	050-054	Light blue
	055-059	Wine red
	060-064	May green
	065-069	Reseda green
	070-074	Blue lilac
	075-079	Moss green
	080-084	Signal violet
	085-089	Red lilac
	090-094	Purple red
	095-099	Green brown
	100-104	Pale green
	105-109	Ruby red
	110-114	Flame red
	115-119	Red orange
	120-124	Rose
	125-129	Honey yellow
	130-134	Light Pin
	135-139	Deep orange
140-144	Lemmon	
145-149	Golden yellow	
150-154	Pastel orange	
155-159	Cream	
160-164	Melon yellow	

	165-169	Luminous orange
	170-174	Luminous yellow
	175-179	Open
	180-248	Stop
	249-255	Open
24	Color FX (side)	
	0-9	Open
	10-23	FX1
	24-37	FX2
	38-51	FX3
	52-65	FX4
	66-79	FX5
	80-93	FX6
	94-107	FX7
	108-121	FX8
	122-135	FX9
	136-149	FX10
	150-163	FX11
	164-177	FX12
	178-191	FX13
	192-205	FX14
	206-219	FX15
	220-233	FX16
234-247	FX17	
248-255	Open	
25	0-255	Ring Speed(SPEED 1 → 100%)
26	0-255	Ring Dimmer (side)
27	CONTROL (EXECUTE AFTER 3 SECONDS)	
	0-10	NO FUNCTION
	11-20	PAN/TILT BLACK ACTIVATED
	21-30	PAN/TILT BLACK DEACTIVATED
	31-40	PAN INVERT
	41-50	TILT INVERT
	51-60	PAN/TILT INVERT OFF
	61-70	STUDIO
	71-80	LIVE
	81-90	POWER
	91-100	DIM4
	101-110	DIM0
	111-120	LINEAR
	121-130	SQUARE LAW
	131-140	INV. SQUARE LAW
	141-150	S-CURVE
	151-160	1200Hz
	161-170	2400Hz
171-180	4000Hz	

	181-190	6000Hz
	191-200	25000Hz
	201-210	ALL RESET
	211-220	XY RESET
	221-230	ZOOM RESET
	231-255	RESERVED

SSP (25CH)	TOUR (30CH)	TR16 (37CH)	Value	Function
1	1	1	0-255	PAN
		2	0-255	PAN FINE
2	2	3	0-255	TITL
		4	0-255	TITL FINE
3	3	5	0-255	PT SPEED
4	4	6	0-255	RED
		7	0-255	RED FINE
5	5	8	0-255	GREEN
		9	0-255	GREEN FINE
6	6	10	0-255	BLUE
		11	0-255	BLUE FINE
7	7	12	0-255	LIME
		13	0-255	LIME FINE
8	8	14	0-255	DIMMER
		15	0-255	DIMMER FINE
9	9	16	STROBE	
			0-9	NO FUNCTION
			10-99	STROBE FROM (SLOD TO FAST , 0-25Hz)
			100-109	NO FUNCTION
			110-179	LIGHTNING STROBE
			180-189	NO FUNCTION
			190-255	RANDOM STROBE
	10	17	PRESET COLOR	
			0-10	NO FUNCTION
			11-255	PRESET COLOR (See Annex I for details)
	11	18	CCT	
			0-9	NO FUNCTION
			10	1800K
			25	2200K
			40	2700K
			55	3000K
			70	3200K
			85	4000K
			100	4500K
			115	5000K
			130	5600K
			145	6000K

			160	6500K
			175	7000K
			190	8000K
			205	10000K
			255	10000K
	12	19	STATIC PIXEL	
			0-10	NO FUNCTION
			11-255	STATIC PIXEL (See Annex 2 for details)
	13	20	PIXEL EFFECT	
			0-10	NO FUNCTION
			11-255	PIXEL EFFECT (See Annex 3 for details)
	14	21	0-255	AUTO SPEED ADJUSTMENT(SLOW TO FAST)
10	15	22	0-255	ZOON
11	16	23	0-255	RED RING (front)
12	17	24	0-255	GREEN RING (front)
13	18	25	0-255	BULE RING (front)
14	19	26	Ring Color Presets (front)	
			0-9	Open
			10-14	RED
			15-19	GREEN
			20-24	BLUE
			25-29	Yellow
			30-34	Magenta
			35-39	Cyan
			40-44	WHITE
			45-49	Violet blue
			50-54	Light blue
			55-59	Wine red
			60-64	May green
			65-69	Reseda green
			70-75	Blue lilac
			75-79	Moss green
			80-84	Signal violet
			85-89	Red lilac
			90-94	Purple red
			95-99	Green brown
			100-104	Pale green
			105-109	Ruby red
			110-114	Flame red
115-119	Red orange			
120-124	Rose			
125-129	Honey yellow			
130-134	Light Pin			
135-139	Deep orange			
140-144	Lemmon			
145-149	Golden yellow			

			150-154	Pastel orange
			155-159	Cream
			160-164	Melon yellow
			165-169	Luminous orange
			170-174	Luminous yellow
			175-179	Open
			180-248	Stop
			249-255	Open
15	20	27	Color FX (front)	
			0-9	Open
			10-23	FX1
			24-37	FX2
			38-51	FX3
			52-65	FX4
			66-79	FX5
			80-93	FX6
			94-107	FX7
			108-121	FX8
			122-135	FX9
			136-149	FX10
			150-163	FX11
			164-177	FX12
			178-191	FX13
			192-205	FX14
			206-219	FX15
220-233	FX16			
234-247	FX17			
248-255	Open			
16	21	28	0-255	Ring Speed(SPEED 1 → 100%)
17	22	29	0-255	Ring Dimmer (front)
18	23	30	0-255	RED RING (side)
19	24	31	0-255	GREEN RING (side)
20	25	32	0-255	BULE RING (side)
21	26	33	Ring Color Presets (side)	
			0-9	Open
			10-14	RED
			15-19	GREEN
			20-24	BLUE
			25-29	Yellow
			30-34	Magenta
			35-39	Cyan
			40-44	WHITE
			45-49	Violet blue
			50-54	Light blue
			55-59	Wine red
60-64	May green			

			65-69	Reseda green
			70-75	Blue lilac
			75-79	Moss green
			80-84	Signal violet
			85-89	Red lilac
			90-94	Purple red
			95-99	Green brown
			100-104	Pale green
			105-109	Ruby red
			110-114	Flame red
			115-119	Red orange
			120-124	Rose
			125-129	Honey yellow
			130-134	Light Pin
			135-139	Deep orange
			140-144	Lemmon
			145-149	Golden yellow
			150-154	Pastel orange
			155-159	Cream
			160-164	Melon yellow
			165-169	Luminous orange
			170-174	Luminous yellow
			175-179	Open
			180-248	Stop
			249-255	Open
			Color FX (side)	
			0-9	Open
			10-23	FX1
			24-37	FX2
			38-51	FX3
			52-65	FX4
			66-79	FX5
			80-93	FX6
			94-107	FX7
			108-121	FX8
			122-135	FX9
			136-149	FX10
			150-163	FX11
			164-177	FX12
			178-191	FX13
			192-205	FX14
			206-219	FX15
			220-233	FX16
			234-247	FX17
			248-255	Open
22	27	34		
23	28	35	0-255	Ring speed(SPEED 1 → 100%)

24	29	36	0-255	Ring Dimmer (side)
25	30	37	CONTROL (EXECUTE AFTER 3 SECONDS)	
			0-10	NO FUNCTION
			11-20	PAN/TILT BLACK ACTIVATED
			21-30	PAN/TILT BLACK DEACTIVATED
			31-40	PAN INVERT
			41-50	TILT INVERT
			51-60	PAN/TILT INVERT OFF
			61-70	STUDIO
			71-80	LIVE
			81-90	POWER
			91-100	DIM4
			101-110	DIM0
			111-120	LINEAR
			121-130	SQUARE LAW
			131-140	INV. SQUARE LAW
			141-150	S-CURVE
			151-160	1200Hz
			161-170	2400Hz
			171-180	4000Hz
			181-190	6000Hz
			191-200	25000Hz
201-210	ALL RESET			
211-220	XY RESET			
221-230	ZOOM RESET			
231-255	RESERVED			

CMY(31CH)	Value	Function
1	0-255	PAN
2	0-255	PAN FINE
3	0-255	TILT
4	0-255	TILT
5	0-255	TILT FINE
6	0-255	CYAN
7	0-255	MAGENT
8	0-255	YELLOW
9	0-255	DIMMER
10	STROBE	
	0-9	NO FUNCTION
	10-99	STROBE FROM (SLOD TO FAST , 0-25Hz)
	100-109	NO FUNCTION
	110-179	LIGHTNING STROBE
	180-189	NO FUNCTION
190-255	RANDOM STROBE	
11	PRESET COLOR	

	0-10	NO FUNCTION
	11-255	PRESET COLOR (See Annex I for details)
12	CCT	
	0-9	NO FUNCTION
	10	1800K
	25	2200K
	40	2700K
	55	3000K
	70	3200K
	85	4000K
	100	4500K
	115	5000K
	130	5600K
	145	6000K
	160	6500K
	175	7000K
	190	8000K
	205	10000K
255	10000K	
13	STATIC PIXEL	
	0-10	NO FUNCTION
	11-255	STATIC PIXEL (See Annex 2 for details)
14	PIXEL EFFECT	
	0-10	NO FUNCTION
	11-255	PIXEL EFFECT (See Annex 3 for details)
15	0-255	AUTO SPEED ADJUSTMENT(SLOW TO FAST)
16	0-255	ZOON
17	0-255	RED RING (front)
18	0-255	GREEN RING (front)
19	0-255	BULE RING (front)
20	Ring Color Presets (front)	
	000-009	Open
	010-014	RED
	015-019	GREEN
	020-024	BLUE
	025-029	Yellow
	030-034	Magenta
	035-039	Cyan
	040-044	WHITE
	045-049	Violet blue
	050-054	Light blue
	055-059	Wine red
	060-064	May green
	065-069	Reseda green
	070-074	Blue lilac
	075-079	Moss green

	080-084	Signal violet
	085-089	Red lilac
	090-094	Purple red
	095-099	Green brown
	100-104	Pale green
	105-109	Ruby red
	110-114	Flame red
	115-119	Red orange
	120-124	Rose
	125-129	Honey yellow
	130-134	Light Pin
	135-139	Deep orange
	140-144	Lemmon
	145-149	Golden yellow
	150-154	Pastel orange
	155-159	Cream
	160-164	Melon yellow
	165-169	Luminous orange
	170-174	Luminous yellow
	175-179	Open
	180-248	Stop
	249-255	Open
	Color FX (front)	
	0-9	Open
	10-23	FX1
	24-37	FX2
	38-51	FX3
	52-65	FX4
	66-79	FX5
	80-93	FX6
	94-107	FX7
	108-121	FX8
	122-135	FX9
	136-149	FX10
	150-163	FX11
	164-177	FX12
	178-191	FX13
	192-205	FX14
	206-219	FX15
	220-233	FX16
	234-247	FX17
	248-255	Open
22	0-255	Ring Speed(SPEED 1 → 100%)
23	0-255	Ring Dimmer (front)
24	0-255	RED RING (side)
25	0-255	GREEN RING (side)

26	0-255	BULE RING (side)
27	Ring Color Presets (side)	
	000-009	Open
	010-014	RED
	015-019	GREEN
	020-024	BLUE
	025-029	Yellow
	030-034	Magenta
	035-039	Cyan
	040-044	WHITE
	045-049	Violet blue
	050-054	Light blue
	055-059	Wine red
	060-064	May green
	065-069	Reseda green
	070-074	Blue lilac
	075-079	Moss green
	080-084	Signal violet
	085-089	Red lilac
	090-094	Purple red
	095-099	Green brown
	100-104	Pale green
	105-109	Ruby red
	110-114	Flame red
	115-119	Red orange
	120-124	Rose
	125-129	Honey yellow
	130-134	Light Pin
	135-139	Deep orange
	140-144	Lemmon
	145-149	Golden yellow
150-154	Pastel orange	
155-159	Cream	
160-164	Melon yellow	
165-169	Luminous orange	
170-174	Luminous yellow	
175-179	Open	
180-248	Stop	
249-255	Open	
28	Color FX (side)	
	0-9	Open
	10-23	FX1
	24-37	FX2
	38-51	FX3
	52-65	FX4
	66-79	FX5

	80-93	FX6
	94-107	FX7
	108-121	FX8
	122-135	FX9
	136-149	FX10
	150-163	FX11
	164-177	FX12
	178-191	FX13
	192-205	FX14
	206-219	FX15
	220-233	FX16
	234-247	FX17
	248-255	Open
29	0-255	Ring speed(SPEED 1 → 100%)
30	0-255	Ring Dimmer (side)
31	CONTROL (EXECUTE AFTER 3 SECONDS)	
	0-10	NO FUNCTION
	11-20	PAN/TILT BLACK ACTIVATED
	21-30	PAN/TILT BLACK DEACTIVATED
	31-40	PAN INVERT
	41-50	TILT INVERT
	51-60	PAN/TILT INVERT OFF
	61-70	STUDIO
	71-80	LIVE
	81-90	POWER
	91-100	DIM4
	101-110	DIM0
	111-120	LINEAR
	121-130	SQUARE LAW
	131-140	INV. SQUARE LAW
	141-150	S-CURVE
	151-160	1200Hz
	161-170	2400Hz
	171-180	4000Hz
	181-190	6000Hz
	191-200	25000Hz
201-210	ALL RESET	
211-220	XY RESET	
221-230	ZOOM RESET	
231-255	RESERVED	

PIXEL (101CH)	Value	Function
1	0-255	PAN
2	0-255	PAN FINE
3	0-255	TILT

4	0-255	TILT
5	0-255	TILT FINE
6	0-255	ZOOM
7	0-255	RED RING (front)
8	0-255	GREEN RING (front)
9	0-255	BULE RING (front)
10	Ring Color Presets (front)	
	000-009	Open
	010-014	RED
	015-019	GREEN
	020-024	BLUE
	025-029	Yellow
	030-034	Magenta
	035-039	Cyan
	040-044	WHITE
	045-049	Violet blue
	050-054	Light blue
	055-059	Wine red
	060-064	May green
	065-069	Reseda green
	070-074	Blue lilac
	075-079	Moss green
	080-084	Signal violet
	085-089	Red lilac
	090-094	Purple red
	095-099	Green brown
	100-104	Pale green
	105-109	Ruby red
	110-114	Flame red
	115-119	Red orange
	120-124	Rose
	125-129	Honey yellow
	130-134	Light Pin
	135-139	Deep orange
	140-144	Lemmon
	145-149	Golden yellow
	150-154	Pastel orange
155-159	Cream	
160-164	Melon yellow	
165-169	Luminous orange	
170-174	Luminous yellow	
175-179	Open	
180-248	Stop	
249-255	Open	
11	Color FX (front)	
	0-9	Open

	10-23	FX1
	24-37	FX2
	38-51	FX3
	52-65	FX4
	66-79	FX5
	80-93	FX6
	94-107	FX7
	108-121	FX8
	122-135	FX9
	136-149	FX10
	150-163	FX11
	164-177	FX12
	178-191	FX13
	192-205	FX14
	206-219	FX15
	220-233	FX16
	234-247	FX17
	248-255	Open
12	0-255	Ring speed(SPEED 1 → 100%)
13	0-255	Ring Dimmer (front)
14	0-255	RED RING (side)
15	0-255	GREEN RING (side)
16	0-255	BULE RING (side)
17	Ring Color Presets (side)	
	000-009	Open
	010-014	RED
	015-019	GREEN
	020-024	BLUE
	025-029	Yellow
	030-034	Magenta
	035-039	Cyan
	040-044	WHITE
	045-049	Violet blue
	050-054	Light blue
	055-059	Wine red
	060-064	May green
	065-069	Reseda green
	070-074	Blue lilac
	075-079	Moss green
	080-084	Signal violet
	085-089	Red lilac
	090-094	Purple red
	095-099	Green brown
100-104	Pale green	
105-109	Ruby red	
110-114	Flame red	

	115-119	Red orange
	120-124	Rose
	125-129	Honey yellow
	130-134	Light Pin
	135-139	Deep orange
	140-144	Lemmon
	145-149	Golden yellow
	150-154	Pastel orange
	155-159	Cream
	160-164	Melon yellow
	165-169	Luminous orange
	170-174	Luminous yellow
	175-179	Open
	180-248	Stop
	249-255	Open
18	Color FX (side)	
	0-9	Open
	10-23	FX1
	24-37	FX2
	38-51	FX3
	52-65	FX4
	66-79	FX5
	80-93	FX6
	94-107	FX7
	108-121	FX8
	122-135	FX9
	136-149	FX10
	150-163	FX11
	164-177	FX12
	178-191	FX13
	192-205	FX14
	206-219	FX15
	220-233	FX16
	234-247	FX17
248-255	Open	
19	0-255	Ring Speed (SPEED 1 → 100%)
20	0-255	Ring Dimmer (side)
21	CONTROL (EXECUTE AFTER 3 SECONDS)	
	0-10	NO FUNCTION
	11-20	PAN/TILT BLACK ACTIVATED
	21-30	PAN/TILT BLACK DEACTIVATED
	31-40	PAN INVERT
	41-50	TILT INVERT
	51-60	PAN/TILT INVERT OFF
	61-70	STUDIO
71-80	LIVE	

	81-90	POWER
	91-100	DIM4
	101-110	DIM0
	111-120	LINEAR
	121-130	SQUARE LAW
	131-140	INV. SQUARE LAW
	141-150	S-CURVE
	151-160	1200Hz
	161-170	2400Hz
	171-180	4000Hz
	181-190	6000Hz
	191-200	25000Hz
	201-210	ALL RESET
	211-220	XY RESET
	221-230	ZOOM RESET
231-255	RESERVED	
22	0-255	DIMMER
23	STROBE	
	0-9	NO FUNCTION
	10-99	STROBE FROM (SLOD TO FAST , 0-25Hz)
	100-109	NO FUNCTION
	110-179	LIGHTNING STROBE
	180-189	NO FUNCTION
	190-255	RANDOM STROBE
24	PRESET COLOR	
	0-10	NO FUNCTION
	11-255	PRESET COLOR (See Annex I for details)
25	CCT	
	0-9	NO FUNCTION
	10	1800K
	25	2200K
	40	2700K
	55	3000K
	70	3200K
	85	4000K
	100	4500K
	115	5000K
	130	5600K
	145	6000K
	160	6500K
	175	7000K
	190	8000K
205	10000K	
255	10000K	
26	0-255	RED 1
27	0-255	GREEN 1

28	0-255	BLUE 1
29	0-255	LIME 1
30	0-255	RED 2
31	0-255	GREEN 2
32	0-255	BLUE 2
33	0-255	LIME 2
34	0-255	RED 3
35	0-255	GREEN 3
36	0-255	BLUE 3
37	0-255	LIME 3
38	0-255	RED 4
39	0-255	GREEN 4
40	0-255	BLUE 4
41	0-255	LIME 4
42	0-255	RED 5
43	0-255	GREEN 5
44	0-255	BLUE 5
45	0-255	LIME 5
46	0-255	RED 6
47	0-255	GREEN 6
48	0-255	BLUE 6
49	0-255	LIME 6
50	0-255	RED 7
51	0-255	GREEN 7
52	0-255	BLUE 7
53	0-255	LIME 7
54	0-255	RED 8
55	0-255	GREEN 8
56	0-255	BLUE 8
57	0-255	LIME 8
58	0-255	RED 9
59	0-255	GREEN 9
60	0-255	BLUE 9
61	0-255	LIME 9
62	0-255	RED 10
63	0-255	GREEN 10
64	0-255	BLUE 10
65	0-255	LIME 10
66	0-255	RED 11
67	0-255	GREEN 11
68	0-255	BLUE 11
69	0-255	LIME 11
70	0-255	RED 12
71	0-255	GREEN 12
72	0-255	BLUE 12
73	0-255	LIME 12

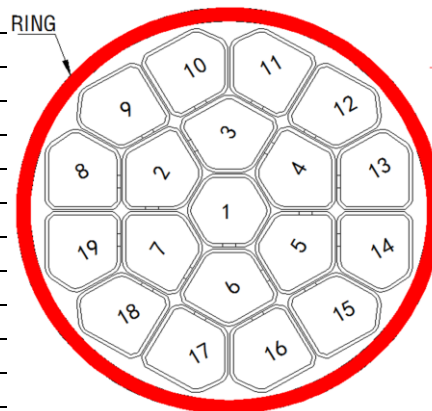
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75	0-255	GREEN 13
76	0-255	BLUE 13
77	0-255	LIME 13
78	0-255	RED 14
79	0-255	GREEN 14
80	0-255	BLUE 14
81	0-255	LIME 14
82	0-255	RED 15
83	0-255	GREEN 15
84	0-255	BLUE 15
85	0-255	LIME 15
86	0-255	RED 16
87	0-255	GREEN 16
88	0-255	BLUE 16
89	0-255	LIME 16
90	0-255	RED 17
91	0-255	GREEN 17
92	0-255	BLUE 17
93	0-255	LIME 17
94	0-255	RED 18
95	0-255	GREEN 18
96	0-255	BLUE 18
97	0-255	LIME 18
98	0-255	RED 19
99	0-255	GREEN 19
100	0-255	BLUE 19
101	0-255	LIME 19

Annex 1

PRESET COLOR	Value	Color Names	x	y	
	0-10	NO FUNCTION			
	11-15	RESERVE	Loving Amber	0.407	0.321
COLOR 1	16-20	R40	Light Salmon	0.499	0.321
COLOR 2	21-25	L24	Scarlet	0.561	0.296
COLOR 3	26-30	L164	Flame Red	0.659	0.302
	31-35	RESERVE	Easy White	0.389	0.344
	36-40	RESERVE	Warm Peach	0.448	0.353
COLOR 4	41-45	L08	Dark Salmon	0.498	0.347
COLOR 5	46-50	L25	Sunset Red	0.566	0.359
	51-55	RESERVE	Medium Bastard Amber	0.37	0.335
COLOR 6	56-60	L237	CID(To Tungsten)	0.43	0.365
COLOR 7	61-65	R321	Soft Golden Amber	0.477	0.406
COLOR 8	66-70	L652	Urban Sodium	0.535	0.399
	71-75	RESERVE	LCT Yellow(Y1)	0.34	0.363
COLOR 9	76-80	L765	LEE Yellow	0.389	0.412
COLOR 10	81-85	L513	Ice And A Slice	0.38	0.447
	86-90	RESERVE	Spring Yellow	0.41	0.502
	91-95	RESERVE	LEE Plus Green	0.324	0.388
	96-100	RESERVE	CalColor 30 Green	0.318	0.44
	101-105	RESERVE	Fern Green	0.234	0.543
COLOR 11	106-110	L90	Dark Yellow Green	0.184	0.641
	111-115	RESERVE	LEE Fluorescent3600K	0.286	0.37
COLOR 12	116-120	R92	Tuiquoise	0.235	0.36
	121-125	RESERVE	Kelly Green	0.185	0.459
	126-130	RESERVE	Forest Green	0.162	0.496
	131-135	RESERVE	Cosmetic Aqua Blue	0.3	0.318
COLOR 13	136-140	L728	Steel Green	0.256	0.302
COLOR 14	141-145	L117	Steel Blue	0.223	0.278
COLOR 15	146-150	L354	Special Steel Blue	0.173	0.265
	151-155	RESERVE	Paler Lavender	0.284	0.284
COLOR 16	156-160	L501	New Colour Blue	0.246	0.249
COLOR 17	161-165	L174	Dark Steel Blue	0.204	0.205
	166-170	RESERVE	Daylight Blue	0.159	0.158
	171-175	RESERVE	Pale Lavender	0.288	0.254
	176-180	RESERVE	Surprise Pink	0.24	0.183
COLOR 18	181-185	L142	Pale Violet	0.209	0.148
	186-190	RESERVE	Perfect Lavender	0.177	0.07
	191-195	RESERVE	Light Pink	0.335	0.289
COLOR 19	196-200	L794	Pretty'n Pink	0.335	0.251
COLOR 20	201-205	L328	Follies Pink	0.335	0.18
	206-210	RESERVE	Magical Magenta	0.327	0.138
	211-215	RESERVE	Pale Rose	0.35	0.318
COLOR 21	216-220	L127	Smokey Pink	0.397	0.265
COLOR 22	221-225	L192	Flesh Pink	0.41	0.237
	226-230	RESERVE	Special Rose Pink	0.465	0.193
	231-235	RESERVE	Moroccan Pink	0.378	0.324
COLOR 23	236-240	L157	Pink	0.457	0.272
COLOR 24	241-245	R332	Cherry Rose	0.489	0.295
	246-250	RESERVE	Cool LED Bright Pink	0.57	0.263
	251-255	NO FUNCTION			

Annex 2

STATIC PIXEL	
0-10	NO FUNCTION
11-15	1
16-20	2
21-25	3
26-30	4
31-35	5
36-40	6
41-45	7
46-50	8
51-55	9
56-60	10
61-65	11
66-70	12
71-75	13
76-80	14
81-85	15
86-90	16
91-95	17
96-100	18
101-105	19
106-110	1
111-115	2, 3
116-120	4, 5
121-125	6, 7
126-130	8, 9
131-135	10, 11
136-140	12, 13
141-145	14, 15
146-150	16, 17
151-155	18, 19
156-160	1
161-165	2, 3, 4
166-170	5, 6, 7
171-175	8, 9, 10
176-180	11, 12, 13
181-185	14, 15, 16
186-190	17, 18, 19
191-195	1
196-200	2, 3, 4, 5, 6, 7
201-205	8, 9, 10, 11
206-210	12, 13, 14, 15
211-215	16, 17, 18, 19
216-220	1
221-225	2, 8, 9
226-230	3, 10, 11
231-235	4, 12, 13
236-240	5, 14, 15
241-245	6, 16, 17
246-250	7, 18, 19
251-255	NO FUNCTION



Annex 3

PIXEL	EFFECT
0-10	NO FUNCTION
11-15	1-19(Single light cycling operation, associated with CH6-CH18)
16-20	19-1(Single light cycling operation, associated withCH6-CH18)
21-25	1-19-1(Single light cycling operation, associated with CH6-CH18)
26-30	1-10 and 19-10(1&19light up in the same time, gethering from 2 sides to the center in
31-35	1 (30%)-2 (60%)-3 (100%) , (associated with CH6-CH18)
	2 (30%)-3 (60%)-4 (100%) , (associated with CH6-CH18)
	3 (30%)-4 (60%)-5 (100%) , (associated with CH6-CH18)
	4 (30%)-5 (60%)-6 (100%) , (associated with CH6-CH18)
	5 (30%)-6 (60%)-7 (100%) , (associated with CH6-CH18).....
	18 (30%)-19 (60%)-1 (100%) , (associated with CH6-CH18)
	19 (30%)-1 (60%)-2 (100%) , (associated with CH6-CH18)
36-40	19(30%)-18 (60%)-17 (100%) , (associated with CH6-CH18)
	18 (30%)-5 (60%)-4 (100%) , (associated with CH6-CH18)
	5 (30%) - 4 (60%) 3 (100%) , (associated with CH6-CH18)
	4 (30%) - 3 (60%) 2 (100%) , (associated with CH6-CH18)
	3 (30%) - 2 (60%) 1 (100%) , (associated with CH6-CH18)
	2 (30%) - 1 (60%) 19 (100%) , (associated with CH6-CH18)
	1 (30%) - 19 (60%) 18 (100%) , (associated with CH6-CH18)
41-45	1-19 2700K cycle run (CH6-CH11 background)
46-50	19-1 2700K cycle run (CH6-CH11 background)
51-55	1-19-1 2700K cycle run (CH6-CH11 background)
56-60	1-10 and 19-10(1<2700k>&19<2700K>light up in the same time, gethering from 2 sides to the
61-65	1-19(Single 6000k cycling operation ,the background effect associated with CH6-CH18)
66-70	19-1(Single 6000k cycling operation ,the background effect associated with CH6-CH18)
71-75	1-19-1(Single 6000k cycling operation ,the background effect associated with CH6-CH18)
76-80	1-10 and 19-10(1<6000k>&7<6000K>light up in the same time, gethering from 2 sides to the
81-85	Red background , illuminace adjustable . 100% green lightness runs(1-19)
86-90	Red background , illuminace adjustable . 100% green lightness runs(19-1)
91-95	Red background , illuminace adjustable . 100% green lightness runs(1-19-1)
96-100	Red background , illuminace adjustable . 100% green lightness runs(1-10,19-10),1&19light up
101-105	Green background , illuminace adjustable . 100% blue lightness runs(1-19)
106-110	Green background , illuminace adjustable . 100% blue lightness runs(19-1)
111-115	Green background , illuminace adjustable . 100% blue lightness runs(1-19-1)
116-120	Green background , illuminace adjustable . 100% blue lightness runs(1-10,19-10),1&19light up
121-125	Blue background , illuminace adjustable . 100% green lightness runs(1-19)
126-130	Blue background , lluminace adjustable . 100% green lightness runs(19-1)
131-135	Blue background , illuminace adjustable . 100% green lightness runs(1-19-1)
136-140	Blue background , illuminace adjustable . 100% green lightness runs(1-10,19-10),1&19 light up
141-145	Red background , illuminace adjustable . 100% lime lightness runs(1-19)
146-150	Red background , illuminace adjustable . 100% limee lightness runs(19-1)
151-155	Red background , illuminace adjustable . 100% lime lightness runs(1-19-1)
156-160	Red background , illuminace adjustable . 100% lime lightness runs(1-10,19-10),1&19 light up in
161-165	Green background , illuminace adjustable . 100% lime lightness runs(1-19)
166-170	Green background , illuminace adjustable . 100% lime lightness runs(19-1)
171-175	Green background , illuminace adjustable . 100% lime lightness runs(1-19-1)
176-180	Green background , illuminace adjustable . 100% lime lightness runs(1-10,19-10),1&19 light up
181-185	Blue background , illuminace adjustable . 100% lime lightness runs(1-19)
186-190	Blue background , illuminace adjustable . 100% lime lightness runs(19-1)
191-195	Blue background , illuminace adjustable . 100% lime lightness runs(1-19-1)

196-200	Blue background ,illuminace adjustable . 100% lime lightness runs(1-10,19-10),1&19 light up in
201-205	Green background , illuminace adjustable . 100% red lightness runs(1-19)
206-210	Green background , illuminace adjustable . 100% red lightness runs(19-1)
211-215	Green background , illuminace adjustable . 100% red lightness runs(1-19-1)
216-220	Green background , illuminace adjustable . 100% red lightness runs(1-10,19-10),1&19 light up
221-225	Blue background , illuminace adjustable . 100% red lightness runs(1-19)
226-230	Blue background , illuminace adjustable . 100% red lightness runs(19-1)
231-235	Blue background , illuminace adjustable . 100% red lightness runs(1-19-1)
236-240	Blue background , illuminace adjustable . 100% red lightness runs(1-10,19-10),1&19 light up in
241-245	small-middle-big-middle-small circular ring
246-250	1-2,3,4,5,6,7-8,9,10,11,12,13,14,15,16,17,18,19-2,3,4,5,6,7cycle operation
251-255	NO FUNCTION