BEAM&SPOT MOVING HEAD LIGHT

USER MANUAL

（RDM TFT DISPLAY & TOUCH）



Please read over this manual before operation the light

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Chapter 1 Installation and attention

1. Maintenance

- To reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.
- Intermittently using will extend this item's service life.
- Please clear the fan, fan net, and optical lens in order to keep good work state.
- Do not use the alcohol or any other organic solvent to wipe the shell.

2. Statement

The product has perfect performance and integrity packing. All users should be strictly complying with the warning and operating instructions as stated. Or we aren't in charge of any result by misusing. Any damage resulting by misuse is not within the Company's warranty. Any fault or problem caused by neglecting the manual is also not in the charge of dealers.

Note: All information is subject to change without prior notice.

3. Safety Precaution

- In order to guarantee the product's life, please don't put it in the damp places or even the environment over 60degress.
- Always mount this unit in safe and stable matter.
- Install or dismantle should operate by professional engineer.
- Using lamp，the change rate of power voltage should be within±10%，If the voltage is too high，it will shorten the light's life; If it's not enough, will influence the effect.
- Please restart it 20 minutes later after turning off light , until full-cooling. Frequent switching will reduce the life span of lamps and bulbs; intermittent using will improve the life of bulbs and lamps.
- In order to make sure the product is used well, please read the Manual carefully.

4. Cable connection（DMX）

Use a cable conforming to specifications EIA RS-485: 2-pole twisted, shielded, 120Ohm characteristic impedance, 22-24AWG,low capacity. Do not use microphone cable or other cable withcharacteristics differing from those specified. The end connections must be made using XLR type 3 or 5-pin male/female connectors. A terminating plug must be inserted into the last projector with a resistance of 120Ohm (minimum 1/4 W) between terminals 2 and3.

IMPORTANT: The wires must not make contact with each other or with the metal casing of the connectors. The casing itself must be connected to the shield braid and to pin 1 of the connectors.

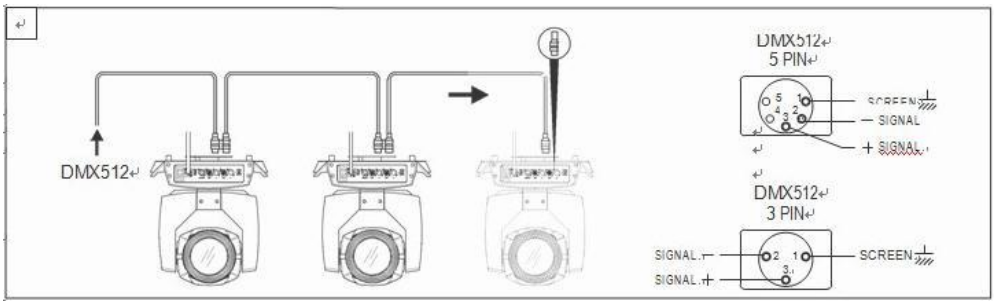


Figure 1 DMX Cable connection

5. Rigging (Optional)

This equipment can be positioned and fixed by clamp in every direction of the stage. Locking system makes it easy to fasten to the bracket.

Attention! Two clamps is needed to fix the equipment. Every clamp is locked by fastener of 1/4 kind. Fastener can only be locked clockwise.

Attention! Fasten a safety string to the additional hole of side aluminum piece. The secondary accessory can not hang on the delivery handle. Nip the equipment on bracket.

- Check if rigging clamp (not including the one inside) damaged or not? If stand ten times weight as the equipment. Make sure the architecture can stand ten times weight as all the equipments, clamps, wirings and other additional fixtures.
- Screws for clamping must be fixed firmly. Take one M12 screw (Grade 8.8 or higher) to clamp bracket, and then screw the nuts.
- Level the two hanging points at the bottom of clamp. Insert fastener to the bottom, lock the two levers by 1/4 rotating clockwise; then install another clamp.
- Install on safety string which stands at least ten times weight as equipment. Terminal of the accessory is designed for clamps.
- Make sure pan/tilt lock unlocked or not. Keep the distance more than 1M from equipment to flammable material or lighting source.

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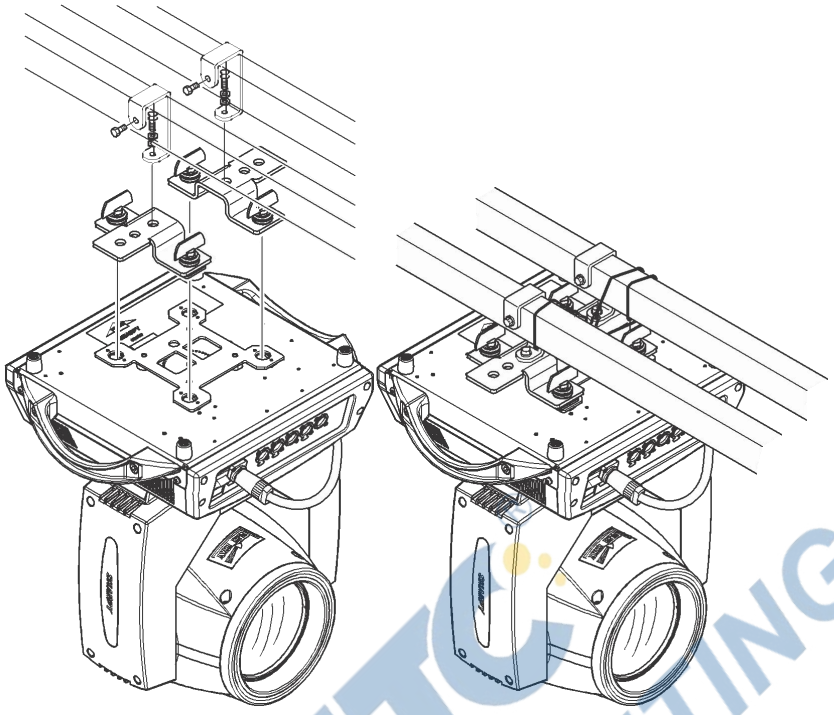


Figure 2 Installation

6. RDM Note

RDM is an extended version of DMX512-A protocol. It is a remote device management protocol. Traditional DMX512 protocol communication is one-way communication. The protocol is based on RS-485 bus. RS-485 is a time-sharing multi-point, half-duplex protocol. Only one port is allowed to output at the same time. So, when using RDM, we should pay attention to it. The following points:

- To use console or host device that supports RDM host protocol.
- Use bidirectional signal amplifier, traditional one-way signal amplifier is not suitable for RDM protocol, because the RMD protocol needs feedback data, the use of one-way amplifier will block the return of data, resulting in no search fixture;
- All fixture must be set to DMX mode to ensure only one host on the cable.
- A 120 ohm impedance matching resistor must be inserted between terminals 2 and 3 of the terminal plug. When the signal line is longer, reducing the signal reflection will make the differential signal more stable and beneficial to the quality of communication.
- When the fixture appears to accept DMX control, but can not been search by RDM host, first check the signal amplifier, and then check whether the signal line 2, 3 lines have bad contact.

Chapter 2 Panel operation

1. Brief

The light panel diagram show as Figure 3, The top-left corner of the title bar displays the operating mode, while the top-right corner shows the channel mode; below is the status bar, displaying the current luminaire's fan voltage and lamp power. The information displayed below varies depending on the light source: if it is an LED light source, it displays the light source temperature and PWM attenuation. Press the "EXIT" key to enter the parameter editing page.

RDM protocol is embed in fixture, user set DMX address via cable using the controller support RDM function. when fixture was search by controller, displayer will echo ‘RDM’ indicate this RDM is work.

Note: Prevent damage the touch or TFT displayer, Can not use sharp objects chick displayer.

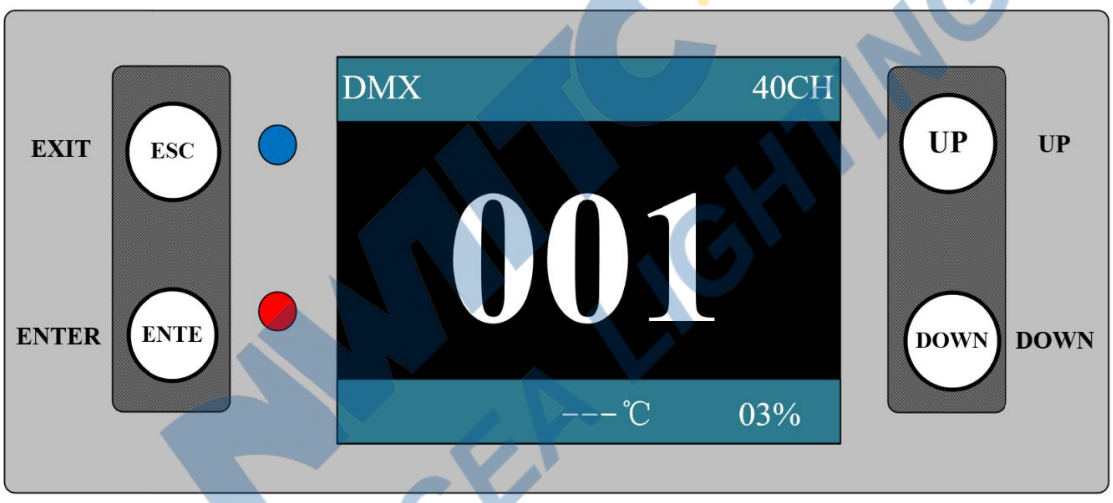


Figure 3 Panel diagram

2. Operation

1. Operate fixture with touch or encoder/button

- The middle area is the display area, both sides of the area is the input area, you can use the touch key to control the cursor to select the item that needs to be set or viewed, and press the "ENTE" button to complete the operation.

2. Parameter value setting

When the selected item is value need to been modified, the dialog shown in Figure 4 will popup.



Figure 4 Dialog of value setting

- **Modify value：** The desired value can be set by pressing the "Up" and "Down" buttons.
- **Save Value：** After setting the data by pressing the button, press the "ENTE" button, the values are immediately saved to the internal memory, and the saved values are applied to the fixture the next time the machine is turned on.

3. Boolean parameter setting

- when the selected parameters is a Boolean value (such as ON or OFF), can directly modify setting by chick corresponding item, the setting will been saved right now.
- When the parameter is a key item, chick corresponding item, a dialog shown in Figure 5 will been popup ask for the confirm. Chick 'sure' to confirm.

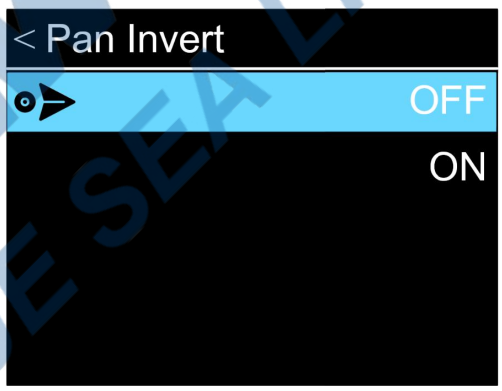


Figure 5 Dialog of confirm

4. Main Menu（Parameter）

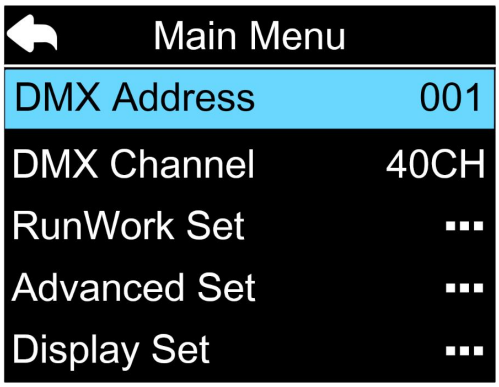


Figure6

DMX Address	Set the DMX address of the fixture. See 3.1.
DMX Channel	Press the "UP" or "DOWN" key to switch the current channel mode.
RunWork Set	Set the operation mode of the fixture. See 3.2.
Advanced Set	Set the working parameters of the fixture. See 3.3.
Display Set	Set the relevant parameters of the display. Supports Chinese/English display, inverted display, etc. See 3.4.
System Info	View the current status and device information of the fixture. See 3.5.
Calibration	Enter the device fine tuning menu, input the password, and manually adjust the background parameters.
Reset	Used to perform independent or full reset operations on various functional modules of the fixture, in order to resolve issues such as mechanical position offset or abnormal function response caused by improper operation or signal interference. The user can select the reset item using the UP/DOWN keys, press ENTER to execute the reset, and press EXIT to exit the current interface.
Factory Setting	Used to restore all fixture parameters to their factory default state. After this operation, user-defined data will be cleared, and the fixture will return to its initial state. (Use this function with caution. It is recommended to record important current parameters before proceeding for later reconfiguration.)

5. Anti-false touch operation of key

If the product chooses the operation mode of the touch button, because the touch button is non-mechanical pressing (capacitive induction mode), in order to prevent accidental False touch, the operation menu mode or data of the fixture equipment will be accidentally changed. The product has added the anti-accidental button of the operation menu to unlock the confirmation page. You need to enter the menu to modify the mode or data of the fixture , and you can click the corresponding button in turn according to the prompts on the display.

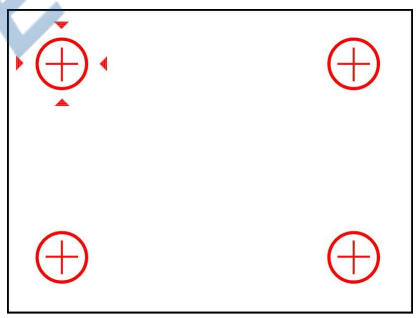


Figure7

- For the interface shown in Figure 7, when the corresponding key is pressed, the yellow icon of that key will turn black, and the yellow indicator will then point to the next key position. Press all four corresponding keys in sequence to exit the anti-misoperation interface. If the key icon remains yellow after being pressed, it means the wrong key was pressed.
- After power-on, when you edit the fixture parameters, it will trigger to enter the anti touch locking interface. If you just browse the parameters, it won't trigger entry; When the "lock screen" function is turned on, after not operating for a period of time, the anti touch locking

interface will be entered when editing the fixture parameters; When the "lock screen" function is turned off, it only enters the anti touch locking interface when editing the fixture parameters after power-on. When you unlock the anti touch locking interface, you will not enter again during the current power-on cycle.

- In order to prevent the "lock screen" function from being turned off due to false touch.When the "lock screen" function is turned on, after pressing the "ENTER" button for the "lock screen"option, the anti touch locking interface will be entered, which will prompt that the "lock screen" function will be turned off; And when the "lock screen" function is turned off, you can turn on the function directly.

3. Operation and parameter instruction

1. DMX Address setting

Enter page show in Figure 8-1, can set fixture DMX address.



Figure 8-1

The menu settings of fixture have optimized the setting of addresses. Several settings of the address are as follows:

- Press the left "Up" or "Down" button to automatically set the fixture's address code according to the channel mode, or press the right "Up" or "Down" button to have the fixture automatically calculate the next or previous fixture's address code based on the current address and channel data for quick setup.
- Click on the address alue, you can enter the numeric editing window, where you can set any valid address, fixture system automatically get the current number of channels, automatically filter the unusable address (512 - the current number of channels).

2. Fixture operating mode setting

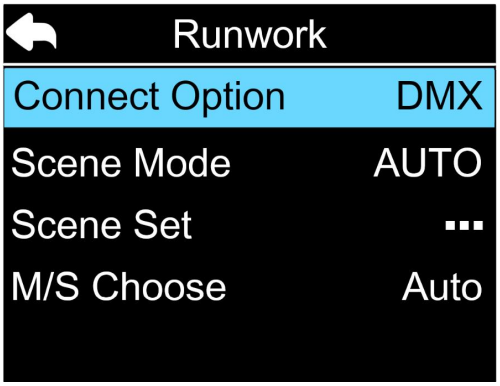


Figure 8-2

Through the page shown in Figure 8-2, Detailed parameter descriptions are provided in the table below:

operating mode

Connect Option	DMX	DMX mode, receive DMX signal, RDM signal.
	Auto	Fixture run automatically according to built-in programs.
	Scene	Select Scene Mode.
Scene Mode	runs in a set scene, which supports most of the custom editing of 10 scenes.	
	1~10	outputs the specified scene
	Auto	Automatically loops the output scene in the set scene time (non-zero) order, and the scene with time 0 automatically ignore
Scene Set	Looking at this page, you can get the current channel table slot of the fixture. For specific channel data, please refer to the detailed channel description.	
	Scene Select	Select the current operation scenario.
	Scene Time	Sets the retention time of the current scene when it is automatic,the final time is determined by the scene time multiplier, unit in 0.1 seconds.
	Control Mode	Choose whether to use the console to manipulate the settings data.
	1.Pan	Set up the data of each channel, and the contents and order of the display are one-to-one correspondence with the channel list of fixture.
	……	
	N.Function	
M/S Choose	Master and slave selection, non-DMX mode takes effect, select the mode of data output, fixture detect DMX cable state automatic switch output, prevent data conflicts	
	Master	fixture runs built-in program. If DMX has no signal, it outputs data (synchronization), otherwise it does not output data.
	Slave	fixture runs built-in program and do not output data
	Auto	If DMX has no signal, the fixture will runs built-in program. Otherwise, the fixture will run in DMX Mode(follow DMX).

Scene mode applies to a single or a small number of fixture, just output a fixed scene, or need to run a simple program, you no need connect to the console, in the scene page can be edited.

3. Set light run parameter

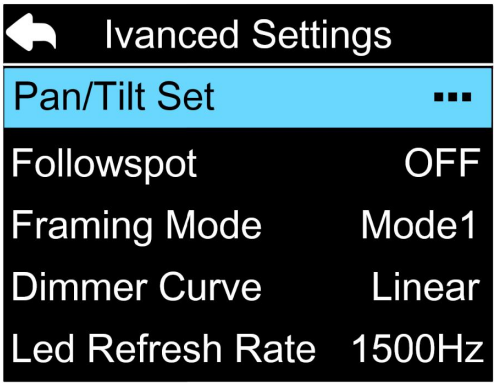


Figure 8-3

Enter the page shown in Figure 8-3, adjust the field parameters of fixture, facilitate the installation of fixture, etc.

ADVANCED SETTING

Pan/Tilt Set	Pan Invert	Set the rotation direction of PAN
	Tilt Invert	Set the rotation direction of TILT
	P/T Rectify	Setting up fixture to detect XY lost step and correct
Followspot	Manual Followspot Mode: Manual XY Pan/Tilt Adjustment.	
	OFF	
	ON	
Framing Mode	Used to control the beam shaping function of the framing fixture.	
Dimmer Curve	Select the corresponding dimming curve to adjust the smoothness and visual linearity of brightness changes.	
Led Refresh Rate	Supports 10 adjustable frequency levels (900Hz~5000Hz), allowing users to choose according to their needs.	
Dimmer Speed	Provides four dimming speeds to suit brightness change requirements in different scenarios.	
	Normal	Standard smooth dimming, suitable for most lighting scenarios
	Fast	Fast dimming response, ideal for situations requiring frequent or rapid brightness changes
	Medium	Medium dimming speed, balancing response speed and visual comfort
	Slow	Slow gradual dimming, creating soft and gentle brightness transition effects
Data hold	When the fixture is not equipped with DMX signal, the output state of the fixture	
	OFF	No signal, so the motor and light source return to the position and state when reset is completed.
	NO	No signal, keep the last frame DMX data output.
Scene Time (multiple)	Work with the scene time to determine the scene retention time	
	1-255	Retention time = Scene time * multiple
Fan Mode	Representing different fan speeds. If this function is not applicable, it can be ignored.	

When the fixture can not calibrate the position, please check whether the "P/T Rectify" is turned

off.

When the signal is unplugged, check the Data Hold setting first if the position of the fixture is not output as expected.

4. Set display

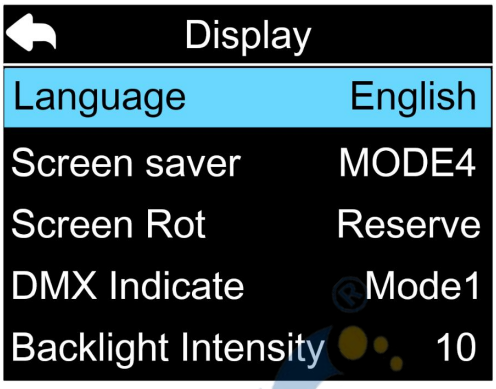


Figure 8-4

The fixture support Chinese and English, invert display and so on. Enter the corresponding parameter settings as shown in Figure 8-4.The specific menu contents are as follows:

DISPLAY SETTING

Language	display language settings	
	English	English display
	Chinese	Chinese display
Screen saver	Set screen 30 seconds without operation, the screen's display content or method.	
	OFF	Keep the last operation page
	Mode1	Black
	Mode2	Black screen, showing the address code of the current fixture in the lower left corner.
	Mode3	Display trademark information, address code and operation mode.
	Mode4	Display trademark information, address code and operation mode,which lasts for 30 seconds ,black screen.
Screen Rot	Set the display direction of the screen.	
	Reverse	
	Forward	
	Auto	
DMX Indicate	Set the indication mode of DMX signal indicator.	
	Mode1	When signal is bright, no signal is off.
	Mode2	When signal is off, no signal is bright.
	Mode3	When signal is flash, no signal is off.
Backlight Intensity	Set the screen backlight for 10 seconds without operation	
	1~10	10
Lock Screen	Set whether to open the anti touch locking interface.	
	OFF	Only after power-on,editing the fixture parameters will enter the anti touch locking interface once.

	ON	After a period of no operation, editing the fixture parameters will enter the anti touch locking interface.

5. Status and information

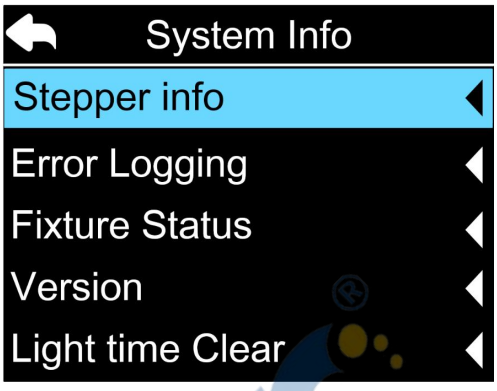


Figure 8-5

Entering the page shown in Figure 8-5, you can view the information and real-time status of the fixture to get their usage status. If the fixture need customer service, please provide the status information displayed on the page as a basis for judgment, as shown in the following table:

STATUS INFORMATION

Stepper info	Display information status of all motors and signals in fixture.	
	Hall	No display, indicating that the motor has no Hall, 0 indicating that the motor leaves the correction position point, 1 indicating that the motor is in the correction position point
	Status	Display motor reset status
	PAN	Display real-time position value of PAN optocoupler feedback
	TILT	Display real-time position value of TILT optocoupler feedback
	PAN OP	Displays the PAN TILT optocoupler two signal level state, binary
Error Logging	Show the latest 8 error records when the fixture is reset and running. The error records are not saved after power failure. The current power cycle is valid.	
	Error Logging	Total number of failures detected after power on
	12：:03	The time of power failure when the fault occurs is in minutes.
	Hall error	The effective hall signal is not detected when the motor is reset
	Hall short	When the motor is reset, the hall signal of the motor is always effective
	Opti error	No effective optocoupler signal is detected when the motor is reset.
	Lose stop	The corresponding motor is out of step during its operation.
	Hit	Striking the positioning rod when the motor is reset
	Lamp error	Lamp explosion accident
	NTC error	The temperature sensor signal is abnormal
	Fan error	The main fan is not working properly.
Fixture status	Displays the critical state data of the current fixture for reference.	
	Communication	0~100%, Communication quality of internal data link of lamps and

	prec	lanterns
	Error Cnt	The number of erroneous frames was detected after power on, and the total number of erroneous frames was detected.
	Light Temperature	Show the temperature of the current light source, "---" means no detection.
	Panel Temperature	Displays the temperature of the current display panel or the ambient temperature.
	Sensor1 Temperature	Display the ambient temperature of the motherboard temperature or the motherboard installation position.
Version	Display the information and version of the current fixture, important reference for after sales maintenance.	
	Device	The name of the fixture is the same as the equipment information of RDM.
	Model	The type of fixture is the same as the model information of RDM.
	Panel	Firmware version and serial number of display panel
	Main Board	Firmware version and serial number of mother board 1
Light time Clear	Record the total cumulative time of light source opening, unit minute, user manual cleaning, as a reference for regular maintenance of light source time.	
Fixture Use Hour	The total accumulated time for recording the opening of fixture is not allowed to be removed.	

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Chapter 3 Channel description

1. Channel table

This luminaire channel can be viewed in scene mode in order, channel mode is set in the "Address Settings" page, specific details of the data as follows:

CHANNEL TABLE

Channel				Channel Value	Function
40ch Framing	31ch F-Wash	31ch Spot	22ch Wash		
1	1	1	1	000-255	PAN 0-540(degree)
2	2	2	2	000-255	Pan Fine
3	3	3	3	000-255	Tilt 0-270(degree)
4	4	4	4	000-255	Tilt Fine
5	5	5	5	000-255	PT Spd
6	6	6	6	000-255	Cyan
7	7	7	7	000-255	Magenta
8	8	8	8	000-255	Yellow
9	9	9	9	000-255	CTO
10	10	10	10		Colour
				000-009	White
				010-019	Colour1
				020-029	Colour2
				030-039	Colour3
				040-049	Colour4
				050-059	Colour5
				060-069	Colour6
				070-079	Colour7
				080-089	OPEN+ Colour1
				090-099	Colour1+ Colour2
				100-109	Colour2+ Colour3
				110-119	Colour3+ Colour4
				120-129	Colour4+ Colour5
				130-139	Colour5+ Colour6
				140-149	Colour6+ Colour7
				150-159	Colour7+ Colour8
				160-187	Rotate forward (fast toslow)
				188-190	Stop

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				191-255	Rotate reverse (slow to fast)
11		11			Rot Gobo
				000-009	White
				010-019	Gobo1
				020-029	Gobo2
				030-039	Gobo3
				040-049	Gobo4
				050-059	Gobo5
				060-069	Gobo6
				070-079	Gobo7
				080-089	Shake slow to fast Gobo1
				090--99	Shake slow to fast Gobo2
				100-109	Shake slow to fast Gobo3
				110-119	Shake slow to fast Gobo4
				120-129	Shake slow to fast Gobo5
				130-139	Shake slow to fast Gobo6
				140-149	Shake slow to fast Gobo7
				150-191	Rotate reverse (fast to slow)
				192-255	Rotate forward (slow to fast)
12		12			Gobo.Rot
				000-127	0-360(degree)
				128-190	Rotate reverse (fast to slow)
				191-192	Stop
				193-255	Rotate forward (slow to fast)
13		13		000-255	Gobo.Rot fine
					Gobo
				000-009	White
				010-019	Gobo1
				020-029	Gobo2
				030-039	Gobo3
				040-049	Gobo4
				050-059	Gobo5
				060-069	Gobo6

14		14		070-079	Gobo7
				080-089	Gobo8
				090-099	Gobo9
				100-109	Gobo10
				110-119	Gobo11
				120-124	Shake slow to fast Gobo1
				125-129	Shake slow to fast Gobo2
				130-134	Shake slow to fast Gobo3
				135-139	Shake slow to fast Gobo4
				140-144	Shake slow to fast Gobo5
				145-149	Shake slow to fast Gobo6
				150-154	Shake slow to fast Gobo7
				155-159	Shake slow to fast Gobo8
				160-164	Shake slow to fast Gobo9
				165-169	Shake slow to fast Gobo10
				170-174	Shake slow to fast Gobo11
				175-223	Rotate reverse (fast to slow)
				224-255	Rotate forward (slow to fast)
15		15			Eft Gobo
				000-007	Open
				008-129	Rotate reverse (fast to slow)
				130-133	Stop
				134-255	Rotate forward (slow to fast)
16	11	16	11	000-255	Iris
17		17			Prism1
				000-007	None
				008-255	Inert
					Prism1.R
				000-127	0-360(degree)
				128-189	Rotate reverse (slow to fast)

18		18		190-193	Stop
				194-255	Rotate forward (fast to slow)
19		19			Prism2
				000-007	None
				008-255	Inert
20		20			Prism2.R
				000-127	0-360(degree)
				128-189	Rotate reverse (slow to fast)
				190-193	Stop
				194-255	Rotate forward (fast to slow)
21	12	21	12	000-255	NC
22	13	22	13	000-255	frost1
23	14	23	14	000-255	frost2
24	15	24	15	000-255	zoom
25	16	25	16	000-255	Zoom Fine
26	17	26	17	000-255	Focus
27	18	27	18	000-255	Focus Fine
28	19	28	19		Strobe
				000-007	close
				008-015	open
				016-131	Strobe, slow to fast
				132-139	open
				140-181	Fast On Slow Off, Slow to Fast
				182-189	open
				190-231	Slow On Fast Off, Slow to Fast
				232-239	open
				240-247	Random Strobe, Slow→Fast
				248-255	open
29	20	29	20	000-255	Dimmer
30	21	30	21	000-255	Dimmer Fine
31	22			000-255	blade Rot
32	23			000-255	Blade1
33	24			000-255	Blade2
34	25			000-255	Blade3
35	26			000-255	Blade4

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36	27			000-255	Blade5
37	28			000-255	Blade6
38	29			000-255	Blade7
39	30			000-255	Blade8
40	31	31	22		Reset
				000-209	None
				210-215	Reset XY motor over 3 second
				216-219	None
				220-235	Reset Effect motor over 3 second
				236-239	None
				240-255	Reset fxiture over 3 second

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