



# SCARLET HYBRID



## User Manual

KEEP THIS MANUAL FOR FUTURE NEEDS

[www.moxlite.com](http://www.moxlite.com)

## 1. Safety Instructions

**Please read the instruction carefully which includes important information about the installation, usage and maintenance.**

Please keep this User Guide 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 for indoor use only. Use only in a dry location.

DO install and operate by qualified operator.

DO NOT allow children to operate the fixture.

Use safety chain 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: 0°C. Maximum ambient temperature TA: 40°C. 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 65°C. DO NOT touch the housing bare-handed during its operation

Avoid any flammable liquids, water or metal from entering the unit. Once it happens, cut off the mains power immediately.

DO NOT 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 3 meters.

Disconnect mains power before fuse/lamp replacement or servicing.

Replace fuse/lamp only with the same type.

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.

DO replace the bulb once it is damaged, deformed or life-expired.

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

### **Installation:**

The fixture should be fixed on the clamp. Always ensure that the unit is firmly fixed to avoid vibration and slipping off during operation. Ensure that the trussing or area of installation must be able to hold 10 times the weight without any deformation. Always install a safety cable that can hold at least 12 times the weight of the fixture when installing. DO install and operate by qualified operator. It must be installed in a place where there is out of the reach of people.

## **2. DMX-512 control connections**

1. At last unit, the DMX cable has to be terminated with a terminator. Solder a 120-ohm 1/4W

resistor between pin 2(DMX-) and pin 3(DMX+) into a 3-pin XLR-plug and plug it in the DMX-output of the last unit.

2. Connect the unit together in a “daisy chain” by XLR plug cable from the output of the unit to

the input of the next unit. The cable can only be used in series and cannot be connected in parallel.

DMX 512 is a very high-speed signal. Inadequate or damaged cables,

soldered joints or corroded

connectors can easily distort the signal and shut down the system.

3. The DMX output and input connectors are pass-through to maintain the DMX circuit, when one of the units' power is disconnected.

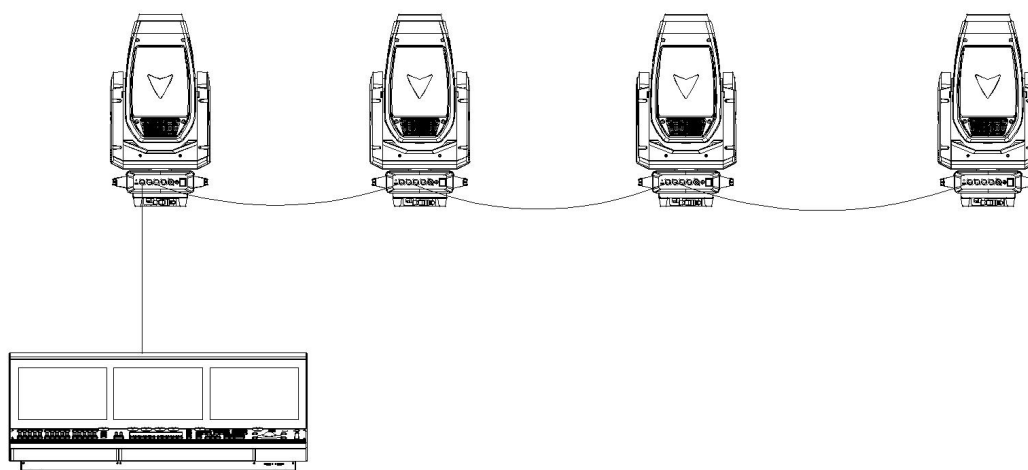
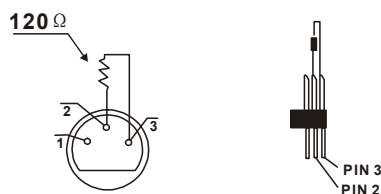
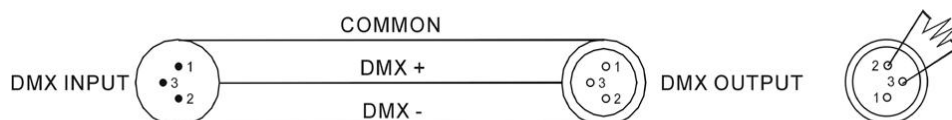
4. Each lighting unit needs to have a DMX address to receive the data by the controller. The address number is between 1-512.

5. The end of the DMX 512 system should be terminated to reduce signal errors.

6. 3 pin XLR connectors are more popular than 5 pins XLR.

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

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



### 3.Address code setting

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

Press the MENU button to enter menu mode, select DMX Settings, press the ENTER button to confirm, use the UP/DOWN button to select DMX Address, press the ENTER button to confirm, the present address will blink in the display, use the UP/DOWN button to adjust the address from 001 to 512, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle 30 seconds to exit menu mode. Please refer to the following diagram to address your DMX512 channel for the first 4 units.

| Channel mode | Unit 1 Address | Unit 2 Address | Unit 3 Address | Unit 4 Address |
|--------------|----------------|----------------|----------------|----------------|
| 34 CH        | 1              | 35             | 69             | 103            |
| 25 CH        | 1              | 26             | 51             | 76             |
| 29 CH        | 1              | 30             | 59             | 88             |

### 4.Channel setting

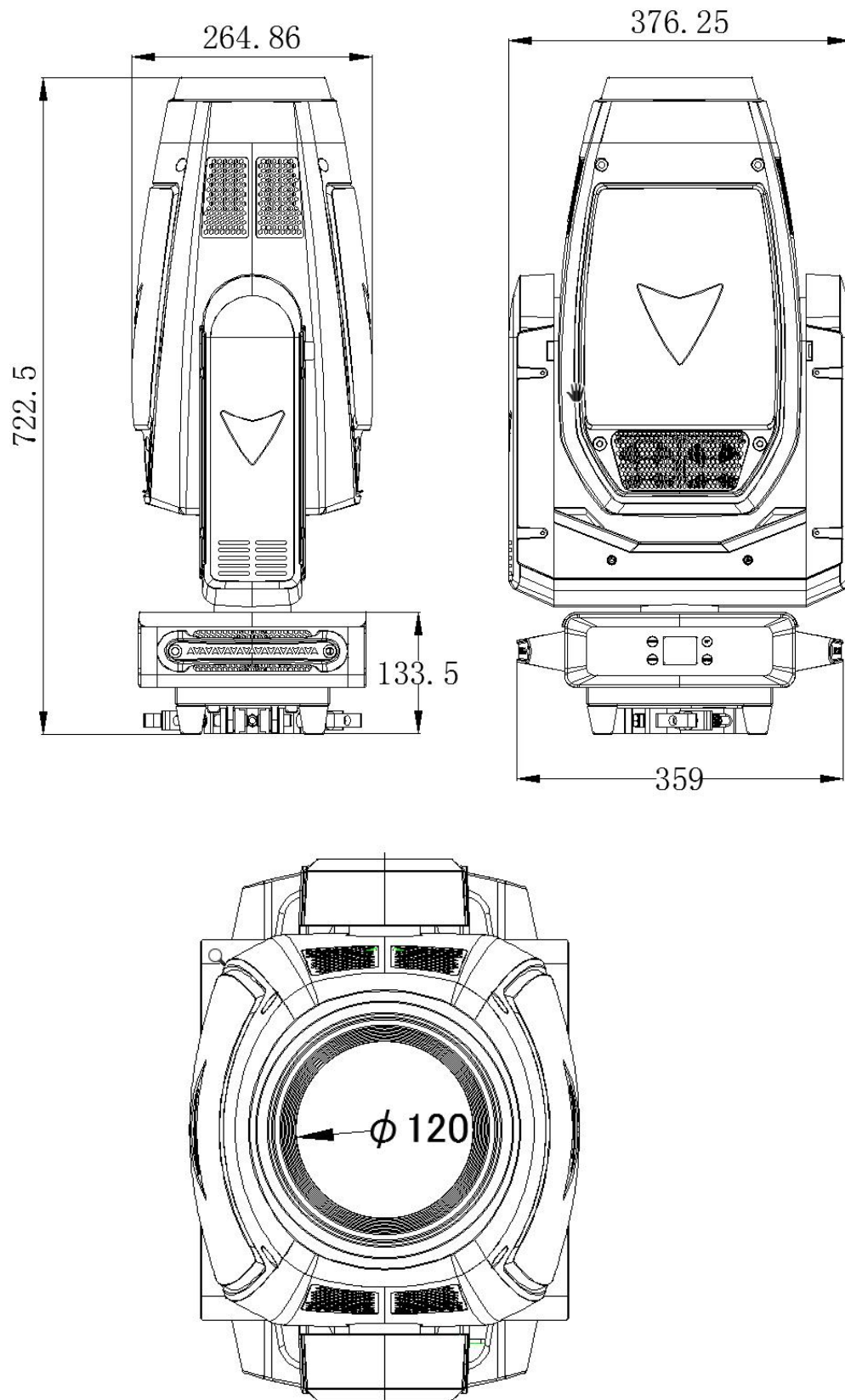
Press MENU button to ENTER menu mode, select DMX Settings, press Enter button to confirm, select DMX channel mode, and press

The current channel mode will be displayed on the display screen. Use the UP/DOWN button to select Mode 1 (34),

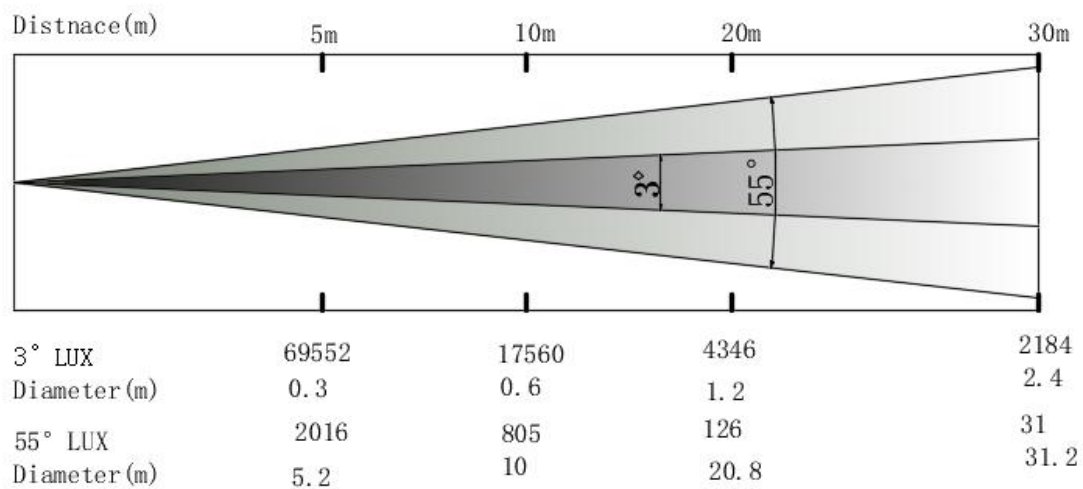
For Mode 2 (25) or Mode 3 (29), press ENTER button to save.

The main menu page will display the address code of the next unit of the same fixture, and calculate the address code

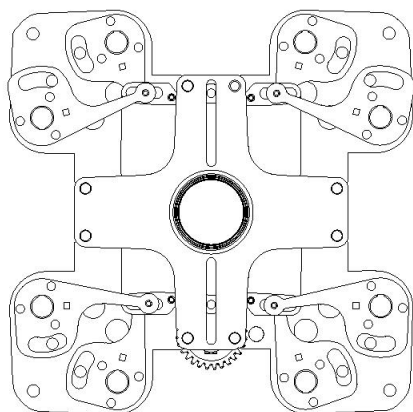
## 5. Fixture size



## 6. Illuminance chart:



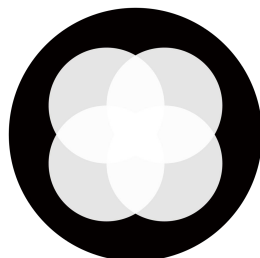
## 7. Effect wheels



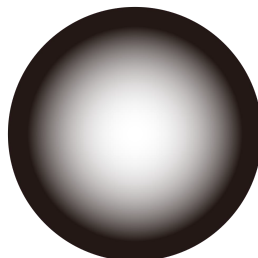
cutting disk



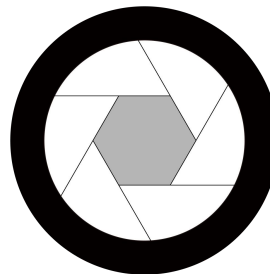
CMY+CTO



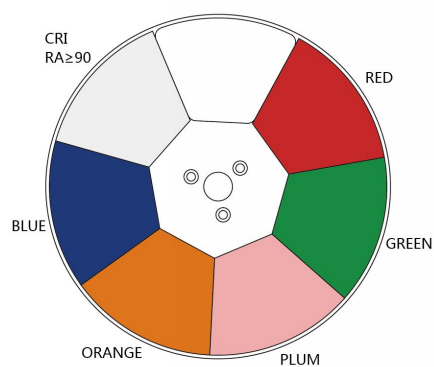
4Prism



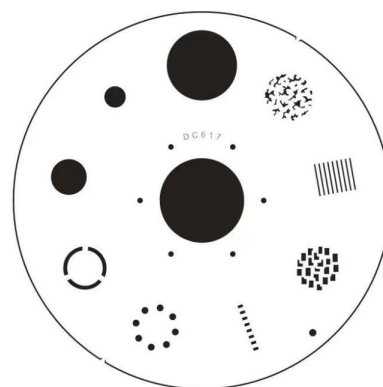
Frost



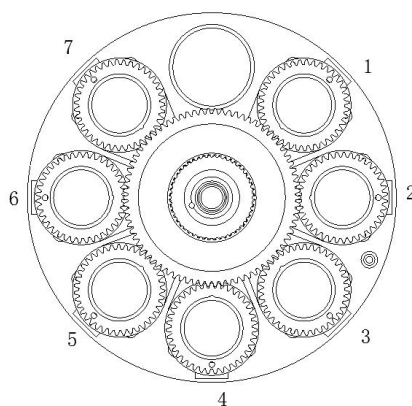
iris



**COLOR WHEEL**

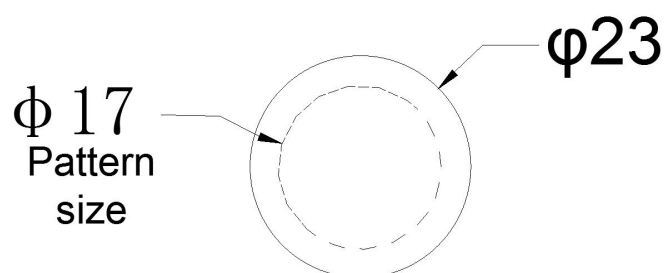


**STATIC GOBO WHEEL**



**ROBATING GOBO WHEEL**

Rotation Gobo





## 8. Lamp technical parameters

Input Voltage: 100-240V, 50/60Hz

Output Voltage: V1:48V 12.5A(light source), V2:24V8A(a main board)

Power consumption: 600 W

Power supply: 800W

Light source: 600W Module LED Engine

Lifetime:  $\geq 20,000$ Hours

Color temperature: 8500K

Linear CTO color temperature adjustment (2700K-7000K)

Standard color rendering index Ra  $\geq 70$

High color rendering index Ra  $\geq 90$

Diameter of optic lens: 120mm

Beam angle: 3° -55°

Linear CMY color mixing system

Color wheel: 1 color wheel, 5 fixed colors that can be rotated in both directions

Fixed Gobo : 1 fixed gobo ,8 fixed gobo

Rotation Gobo: 1 rotating gobo , 7 Rotation Gobo, patterns can be replaced

Prism: 4 prisms that can be rotated in both directions (prism angle 14 ° )

Two independent frost tablets (Mild and moderate) can be used in combination

Cutting system: 4 grating to achieve fast and smooth cutting, each grating cutting direction and Angle can be independently controlled; The entire cutting module can be rotated 90°

0-100% 16bit smooth dimming(Four dimming modes)

Adjustable refresh frequency, HD camera shooting without flicker

More strobe effects, variable speed

DMX Channel: 35/39/34CH

Operate mode: DMX512, master/slave, RDM(Art-Net Optional)

Electronic autofocus

Outstanding strobe effect with variable speed

Control panel: LCD touch screen, touch buttons with backlight

Intelligent protection of overheat temperature

Built-in lithium battery, no power can also operate the menu Settings

X-axis rotation angle: 540°

Y-axis rotation angle: 270°

P/T: 16 bit precision scanning, no deviation

XY axis magnetic coding positioning is more accurate

Three phase motor with SY Brand

Signal Outlet: standard 3 PIN XLR /5PIN XLR socket,(Customizable ART-NET)

Standard with 50MM folding fixture

Fixture size: 376x265x723mm

Net weight: 27KG

## characteristic

Scarlet Hybrid set light beam, spot, wash and cutting functions in one, pure color, uniform spot, color plate, glass gobo plate, CTO, CRI plate are schott materiall, small appearance, light weight, its base is small and delicate, help reduce the weight of the lamp, linear CMY color mixing system, Provides rich color saturation and clear seamless color transitions. LED adopts energy-saving and environment-friendly 600W monochrome LED light engine, which can produce extremely high light output white light, color temperature of 8000K, light flux of light source up to 34,000lm. The 120mm diameter high quality optical lens produces a very uniform spot, CRIRA $\geq$ 90, and zoom range 3° - 55°, The cutting system consists of 4 gratings, which can be rotated $\pm$ 45°, giving designers unlimited spot creativity. Two high brightness atomizing pieces of new materials can be respectively inserted and superimposed. With 14° prism, achieve rich prism effect, and adapt to 3pin/5pinXLR interface. ATR-NET can be customized, standard with fast loading and unloading fast lock light hook, 16BIT dimming, a variety of dimming mode switching options, High refresh rate, no flicker under high-definition camera, intelligent fan temperature control, switching to multi fan mode

## 9. Menu Description

| First level menu | Secondary menu               | Level 3 Menu       | Fourth level menu | Five level menu |  |
|------------------|------------------------------|--------------------|-------------------|-----------------|--|
| DMX set up       | DMX address                  | 1 - 512            |                   |                 |  |
|                  | Channel mode                 | mode1(34)          |                   |                 |  |
|                  |                              | mode2(25)          |                   |                 |  |
|                  |                              | mode3(29)          |                   |                 |  |
| Effect set up    | Horizontal reversal          | no                 |                   |                 |  |
|                  |                              | yes                |                   |                 |  |
|                  | Vertical reverse             | no                 |                   |                 |  |
|                  |                              | yes                |                   |                 |  |
|                  | Horizontal/vertical feedback | close              |                   |                 |  |
|                  |                              | open               |                   |                 |  |
|                  | Dimming curve                | Straight line      |                   |                 |  |
|                  |                              | Square law         |                   |                 |  |
|                  |                              | Inverse square law |                   |                 |  |
|                  |                              | s-curve            |                   |                 |  |

|                     |                   |                    |             |  |  |
|---------------------|-------------------|--------------------|-------------|--|--|
|                     | Dimming frequency | 1200Hz             |             |  |  |
|                     |                   | 2400Hz             |             |  |  |
|                     |                   | 4000Hz             |             |  |  |
|                     |                   | 6000Hz             |             |  |  |
|                     |                   | 25000Hz            |             |  |  |
|                     | Dimming speed     | fast               |             |  |  |
|                     |                   | slow               |             |  |  |
|                     | No-signal mode    | keep               |             |  |  |
|                     |                   | Black field        |             |  |  |
|                     | Fan mode          | automatic          |             |  |  |
|                     |                   | Low speed          |             |  |  |
|                     |                   | High speed         |             |  |  |
|                     | Display setting   | Display direction  | normal      |  |  |
|                     |                   |                    | Rotate 180° |  |  |
|                     |                   | Display brightness | 1-100       |  |  |
|                     |                   | Temperature unit   | ° C         |  |  |
|                     |                   |                    | ° F         |  |  |
|                     |                   | language           | English     |  |  |
|                     |                   |                    | Chinese     |  |  |
|                     | power switch      | no                 |             |  |  |
|                     |                   | yes                |             |  |  |
| Motor reset         | X/Y               | no                 |             |  |  |
|                     |                   | yes                |             |  |  |
|                     | Gobo module       | no                 |             |  |  |
|                     |                   | yes                |             |  |  |
|                     | Cutting module    | no                 |             |  |  |
|                     |                   | yes                |             |  |  |
|                     | ZOOM module       |                    |             |  |  |
|                     |                   |                    |             |  |  |
|                     | ALL               | no                 |             |  |  |
|                     |                   | yes                |             |  |  |
| Equipment detection | Full test         | In the test...     |             |  |  |
|                     | Effect test       | level              |             |  |  |
|                     |                   | vertical           |             |  |  |

|                |              |                   |                   |      |             |
|----------------|--------------|-------------------|-------------------|------|-------------|
|                |              | cyan              |                   |      |             |
|                |              | Rose red          |                   |      |             |
|                |              | yellow            |                   |      |             |
|                |              | Color temperature |                   |      |             |
|                |              | Color             |                   |      |             |
|                |              | Rotation Gobo     |                   |      |             |
|                |              | Gobo Rotation     |                   |      |             |
|                |              | Fixed Gobo        |                   |      |             |
|                |              | iris              |                   |      |             |
|                |              | prism             |                   |      |             |
|                |              | Rotation of prism |                   |      |             |
|                |              | frost 1           |                   |      |             |
|                |              | frost 2           |                   |      |             |
|                |              | zoom              |                   |      |             |
|                |              | focus             |                   |      |             |
|                |              | strobe            |                   |      |             |
|                |              | dimmer            |                   |      |             |
|                |              | Cut rotation      |                   |      |             |
|                |              | Cut down 1        |                   |      |             |
|                |              | Cut down 2        |                   |      |             |
|                |              | Cut on1           |                   |      |             |
|                |              | Cut on 2          |                   |      |             |
|                |              | Cut left1         |                   |      |             |
|                |              | Cut left2         |                   |      |             |
|                |              | Cut right1        |                   |      |             |
|                |              | Cut right2        |                   |      |             |
| DMX Live       | Channel list | 0 - 255           |                   |      |             |
| manual control | Channel list | 0 - 255           |                   |      |             |
| service        | password     | correction        | Motor calibration | PAN  | -128 -> 127 |
|                |              |                   |                   | TILT | -128 -> 127 |
|                |              |                   |                   | cyan | -128 -> 127 |

|  |  |  |                   |             |
|--|--|--|-------------------|-------------|
|  |  |  | Rose red          | -128 -> 127 |
|  |  |  | yellow            | -128 -> 127 |
|  |  |  | Color temperature | -128 -> 127 |
|  |  |  | Color             | -128 -> 127 |
|  |  |  | Rotation gobo     | -128 -> 127 |
|  |  |  | gobo rotation     | -128 -> 127 |
|  |  |  | Fixed gobo        | -128 -> 127 |
|  |  |  | iris              | -128 -> 127 |
|  |  |  | prism             | -128 -> 127 |
|  |  |  | Rotation of prism | -128 -> 127 |
|  |  |  | frost 1           | -128 -> 127 |
|  |  |  | frost 2           | -128 -> 127 |
|  |  |  | zoom              | -128 -> 127 |
|  |  |  | focus             | -128 -> 127 |
|  |  |  | strobe            | -128 -> 127 |
|  |  |  | dimmer            | -128 -> 127 |
|  |  |  | Cut rotation      | -128 -> 127 |
|  |  |  | Cut down 1        | -128 -> 127 |
|  |  |  | Cut down 2        | -128 -> 127 |
|  |  |  | Cut on1           | -128 -> 127 |
|  |  |  | Cut on 2          | -128 -> 127 |

|                    |                          |                               |                 |            |             |
|--------------------|--------------------------|-------------------------------|-----------------|------------|-------------|
|                    |                          |                               |                 | Cut left1  | -128 -> 127 |
|                    |                          |                               |                 | Cut left2  | -128 -> 127 |
|                    |                          |                               |                 | Cut right1 | -128 -> 127 |
|                    |                          |                               |                 | Cut right2 | -128 -> 127 |
|                    |                          |                               | LED calibration | dimmer     | 0 -> 255    |
|                    |                          | factory data reset            | no              |            |             |
|                    |                          |                               | yes             |            |             |
|                    |                          | Clear the device running time | no              |            |             |
|                    |                          |                               | yes             |            |             |
|                    |                          | Clear LED uptime              | no              |            |             |
|                    |                          |                               | yes             |            |             |
| Device information | Equipment operation time | xxxxxH                        |                 |            |             |
|                    | LED running time         | xxxxxH                        |                 |            |             |
|                    | Device version           | 1U: Vxx                       |                 |            |             |
|                    |                          | 2U: Vxx                       |                 |            |             |
|                    |                          | 3U: Vxx                       |                 |            |             |
|                    |                          | 4U: Vxx                       |                 |            |             |
|                    |                          | 5U: Vxx                       |                 |            |             |
|                    |                          | 6U: Vxx                       |                 |            |             |
|                    | RDM UID                  | 0XXXXX-XXXX XXXX              |                 |            |             |
|                    | temperature              | LED                           |                 |            |             |

## 10.Channel

### 34 Channels (Mode1)

| CH | Function  | Value |   |     | Effect                     |
|----|-----------|-------|---|-----|----------------------------|
| 1  | Pan       | 000   | - | 255 | Pan                        |
| 2  | Pan Fine  | 000   | - | 255 | Pan Fine                   |
| 3  | Tilt      | 000   | - | 255 | Tilt                       |
| 4  | Tilt Fine | 000   | - | 255 | Tilt Fine                  |
| 5  | P/T Speed | 000   | - | 255 | Fast to slow               |
| 6  | C         | 000   | - | 255 | 0-100%                     |
| 7  | M         | 000   | - | 255 | 0-100%                     |
| 8  | Y         | 000   | - | 255 | 0-100%                     |
| 9  | CTO       | 000   | - | 255 | 0-100%                     |
| 10 | Color     | 000   | - | 010 | white light                |
|    |           | 011   | - | 023 | color1                     |
|    |           | 024   | - | 036 | color2                     |
|    |           | 037   | - | 049 | color3                     |
|    |           | 050   | - | 062 | color4                     |
|    |           | 063   | - | 075 | color5                     |
|    |           | 076   | - | 088 | color6                     |
|    |           | 089   | - | 101 | Half color1                |
|    |           | 102   | - | 114 | Half color2                |
|    |           | 115   | - | 127 | Half color3                |
|    |           | 128   | - | 140 | Half color4                |
|    |           | 141   | - | 153 | Half color5                |
|    |           | 154   | - | 166 | Half color6                |
|    |           | 167   | - | 179 | Half color7                |
|    |           | 180   | - | 187 | white light                |
|    |           | 188   | - | 219 | Rotate forward, going from |

|    |               |     |   |     |                                           |
|----|---------------|-----|---|-----|-------------------------------------------|
|    |               |     |   |     | fast to slow                              |
|    |               | 220 | - | 223 | stop                                      |
|    |               | 224 | - | 255 | Reverse rotation, speed from fast to slow |
| 11 | Rotation Gobo | 000 | - | 009 | white light                               |
|    |               | 010 | - | 019 | Gobo1                                     |
|    |               | 020 | - | 029 | Gobo2                                     |
|    |               | 030 | - | 039 | Gobo3                                     |
|    |               | 040 | - | 049 | Gobo4                                     |
|    |               | 050 | - | 059 | Gobo5                                     |
|    |               | 060 | - | 069 | Gobo6                                     |
|    |               | 070 | - | 079 | Gobo7                                     |
|    |               | 080 | - | 089 | Gobo1shake                                |
|    |               | 090 | - | 099 | Gobo2shake                                |
|    |               | 100 | - | 109 | Gobo3shake                                |
|    |               | 110 | - | 119 | Gobo4shake                                |
|    |               | 120 | - | 129 | Gobo5shake                                |
|    |               | 130 | - | 139 | Gobo6shake                                |
|    |               | 140 | - | 149 | Gobo7shake                                |
|    |               | 150 | - | 159 | white light                               |
|    |               | 160 | - | 207 | Rotate forward, going from fast to slow   |
|    |               | 208 | - | 255 | Reverse rotation, slow to fast            |
| 12 | Gobo Rotation | 000 | - | 127 | 0 - 360°                                  |
|    |               | 128 | - | 187 | Rotate forward, going from fast to slow   |
|    |               | 188 | - | 195 | stop                                      |
|    |               | 196 | - | 255 | Reverse rotation, speed from fast to slow |
| 13 | Fixed Gobo    | 000 | - | 006 | white light                               |
|    |               | 007 | - | 013 | Gobo1                                     |



|    |                |     |   |     |                                         |
|----|----------------|-----|---|-----|-----------------------------------------|
|    |                | 014 | - | 020 | Gobo2                                   |
|    |                | 021 | - | 027 | Gobo3                                   |
|    |                | 028 | - | 034 | Gobo4                                   |
|    |                | 035 | - | 041 | Gobo5                                   |
|    |                | 042 | - | 048 | Gobo6                                   |
|    |                | 049 | - | 055 | Gobo7                                   |
|    |                | 056 | - | 069 | Gobo8                                   |
|    |                | 070 | - | 079 | Gobo1shake                              |
|    |                | 080 | - | 089 | Gobo2shake                              |
|    |                | 090 | - | 099 | Gobo3shake                              |
|    |                | 100 | - | 109 | Gobo4shake                              |
|    |                | 110 | - | 119 | Gobo5shake                              |
|    |                | 120 | - | 129 | Gobo6shake                              |
|    |                | 130 | - | 139 | Gobo7shake                              |
|    |                | 140 | - | 149 | Gobo8shake                              |
|    |                | 150 | - | 159 | white light                             |
|    |                | 160 | - | 207 | Rotate forward, going from fast to slow |
|    |                | 208 | - | 255 | Reverse rotation, slow to fast          |
| 14 | iris           | 000 | - | 127 | 0-100%                                  |
|    |                | 128 | - | 159 | Slow in fast out from slow to fast      |
|    |                | 160 | - | 191 | Fast in slow out from slow to fast      |
|    |                | 192 | - | 255 | Fast in and fast out from slow to fast  |
| 15 | prism          | 000 | - | 009 | No function                             |
|    |                | 010 | - | 255 | Prism cut                               |
| 16 | Prism Rotation | 000 | - | 063 | 0 - 360°                                |
|    |                | 064 | - | 127 | Rotate forward, going from fast to slow |
|    |                | 128 | - | 191 | Reverse rotation, slow to fast          |

|    |              |     |   |     |                                    |
|----|--------------|-----|---|-----|------------------------------------|
|    |              | 192 | - | 207 | 90° shake                          |
|    |              | 208 | - | 223 | 180° shake                         |
|    |              | 224 | - | 239 | 270° shake                         |
|    |              | 240 | - | 255 | 360° shake                         |
| 17 | CRI          | 000 | - | 009 | CRI close                          |
|    |              | 010 | - | 255 | CRI open                           |
| 18 | frost1       | 000 | - | 009 | No function                        |
|    |              | 010 | - | 255 | Frost cut                          |
| 19 | Frost2       | 000 | - | 009 | No function                        |
|    |              | 010 | - | 255 | frost cut                          |
| 20 | zoom         | 000 | - | 255 | The Angle goes from large to small |
| 21 | focus        | 000 | - | 255 | 0-100%                             |
| 22 | strobe       | 000 | - | 063 | No function (open light)           |
|    |              | 064 | - | 095 | Common stroboscope 1Hz to 20Hz     |
|    |              | 096 | - | 127 | No function (open light)           |
|    |              | 128 | - | 159 | Pulse stroboscope 1Hz-20Hz         |
|    |              | 160 | - | 191 | No function (open light)           |
|    |              | 192 | - | 223 | Random ordinary stroboscopic       |
|    |              | 224 | - | 255 | No function (open light)           |
| 23 | dimmer       | 000 | - | 255 | Dimming 0% to 100%                 |
| 24 | Dimmer fine  | 000 | - | 255 | Dimming fine 0 to 100%             |
| 25 | Cut rotation | 000 | - | 255 | 0-90°                              |
| 26 | Cut down 1   | 000 | - | 255 | 0-100%                             |
| 27 | Cut down 2   | 000 | - | 255 | 0-100%                             |
| 28 | Cut on1      | 000 | - | 255 | 0-100%                             |
| 29 | Cut on 2     | 000 | - | 255 | 0-100%                             |
| 30 | Cut left1    | 000 | - | 255 | 0-100%                             |
| 31 | Cut left2    | 000 | - | 255 | 0-100%                             |

|    |                   |     |   |     |                                   |
|----|-------------------|-----|---|-----|-----------------------------------|
| 32 | Cut right1        | 000 | - | 255 | 0-100%                            |
| 33 | Cut right2        | 000 | - | 255 | 0-100%                            |
| 34 | Function settings | 000 | - | 010 | No function                       |
|    |                   | 011 | - | 020 | Dimming curve: straight line      |
|    |                   | 021 | - | 030 | Dimming curve: square law         |
|    |                   | 031 | - | 040 | Dimming curve: inverse square law |
|    |                   | 041 | - | 050 | Dimming curve: S- curve           |
|    |                   | 051 | - | 060 | Fan mode: Auto                    |
|    |                   | 061 | - | 070 | Fan mode: Low speed               |
|    |                   | 071 | - | 080 | Fan mode: High speed              |
|    |                   | 081 | - | 090 | Dimming frequency: 1200Hz         |
|    |                   | 091 | - | 100 | Dimming frequency: 2400Hz         |
|    |                   | 101 | - | 110 | Dimming frequency: 4000Hz         |
|    |                   | 111 | - | 120 | Dimming frequency: 6000Hz         |
|    |                   | 121 | - | 130 | Dimming frequency: 25000Hz        |
|    |                   | 131 | - | 140 | Dimming speed: fast               |
|    |                   | 141 | - | 150 | Dimming speed: Slow               |
|    |                   | 151 | - | 160 | Reset all motors                  |
|    |                   | 161 | - | 170 | P/T motor reset                   |
|    |                   | 171 | - | 180 | Head motor reset                  |
|    |                   | 181 | - | 190 | No function                       |
|    |                   | 191 | - | 200 | No function                       |
|    |                   | 201 | - | 210 | No function                       |
|    |                   | 211 | - | 220 | No function                       |
|    |                   | 221 | - | 230 | No function                       |
|    |                   | 231 | - | 255 | No function                       |

## 25 Channels (Mode2)

| CH | Function  | Value |   |     | Effect                                  |
|----|-----------|-------|---|-----|-----------------------------------------|
| 1  | Pan       | 000   | - | 255 | Pan                                     |
| 2  | Pan Fine  | 000   | - | 255 | Pan Fine                                |
| 3  | Tilt      | 000   | - | 255 | Tilt                                    |
| 4  | Tilt Fine | 000   | - | 255 | Tilt Fine                               |
| 5  | P/T Speed | 000   | - | 255 | Fast to slow                            |
| 6  | C         | 000   | - | 255 | 0-100%                                  |
| 7  | M         | 000   | - | 255 | 0-100%                                  |
| 8  | Y         | 000   | - | 255 | 0-100%                                  |
| 9  | CTO       | 000   | - | 255 | 0-100%                                  |
| 10 | Color     | 000   | - | 010 | white light                             |
|    |           | 011   | - | 023 | color1                                  |
|    |           | 024   | - | 036 | color2                                  |
|    |           | 037   | - | 049 | color3                                  |
|    |           | 050   | - | 062 | color4                                  |
|    |           | 063   | - | 075 | color5                                  |
|    |           | 076   | - | 088 | color6                                  |
|    |           | 089   | - | 101 | Half color1                             |
|    |           | 102   | - | 114 | Half color2                             |
|    |           | 115   | - | 127 | Half color3                             |
|    |           | 128   | - | 140 | Half color4                             |
|    |           | 141   | - | 153 | Half color5                             |
|    |           | 154   | - | 166 | Half color6                             |
|    |           | 167   | - | 179 | Half color7                             |
|    |           | 180   | - | 187 | white light                             |
|    |           | 188   | - | 219 | Rotate forward, going from fast to slow |
|    |           | 220   | - | 223 | stop                                    |

|    |               |     |   |     |                                           |
|----|---------------|-----|---|-----|-------------------------------------------|
|    |               | 224 | - | 255 | Reverse rotation, speed from fast to slow |
| 11 | Rotation Gobo | 000 | - | 009 | white light                               |
|    |               | 010 | - | 019 | Gobo1                                     |
|    |               | 020 | - | 029 | Gobo2                                     |
|    |               | 030 | - | 039 | Gobo3                                     |
|    |               | 040 | - | 049 | Gobo4                                     |
|    |               | 050 | - | 059 | Gobo5                                     |
|    |               | 060 | - | 069 | Gobo6                                     |
|    |               | 070 | - | 079 | Gobo7                                     |
|    |               | 080 | - | 089 | Gobo1shake                                |
|    |               | 090 | - | 099 | Gobo2shake                                |
|    |               | 100 | - | 109 | Gobo3shake                                |
|    |               | 110 | - | 119 | Gobo4shake                                |
|    |               | 120 | - | 129 | Gobo5shake                                |
|    |               | 130 | - | 139 | Gobo6shake                                |
|    |               | 140 | - | 149 | Gobo7shake                                |
|    |               | 150 | - | 159 | white light                               |
|    |               | 160 | - | 207 | Rotate forward, going from fast to slow   |
|    |               | 208 | - | 255 | Reverse rotation, slow to fast            |
| 12 | Gobo Rotation | 000 | - | 127 | 0 - 360°                                  |
|    |               | 128 | - | 187 | Rotate forward, going from fast to slow   |
|    |               | 188 | - | 195 | stop                                      |
|    |               | 196 | - | 255 | Reverse rotation, speed from fast to slow |
| 13 | Fixed Gobo    | 000 | - | 006 | white light                               |
|    |               | 007 | - | 013 | Gobo1                                     |
|    |               | 014 | - | 020 | Gobo2                                     |
|    |               | 021 | - | 027 | Gobo3                                     |

|    |                |     |   |     |                                         |
|----|----------------|-----|---|-----|-----------------------------------------|
|    |                | 028 | - | 034 | Gobo4                                   |
|    |                | 035 | - | 041 | Gobo5                                   |
|    |                | 042 | - | 048 | Gobo6                                   |
|    |                | 049 | - | 055 | Gobo7                                   |
|    |                | 056 | - | 069 | Gobo8                                   |
|    |                | 070 | - | 079 | Gobo1shake                              |
|    |                | 080 | - | 089 | Gobo2shake                              |
|    |                | 090 | - | 099 | Gobo3shake                              |
|    |                | 100 | - | 109 | Gobo4shake                              |
|    |                | 110 | - | 119 | Gobo5shake                              |
|    |                | 120 | - | 129 | Gobo6shake                              |
|    |                | 130 | - | 139 | Gobo7shake                              |
|    |                | 140 | - | 149 | Gobo8shake                              |
|    |                | 150 | - | 159 | white light                             |
|    |                | 160 | - | 207 | Rotate forward, going from fast to slow |
|    |                | 208 | - | 255 | Reverse rotation, slow to fast          |
| 14 | iris           | 000 | - | 127 | 0-100%                                  |
|    |                | 128 | - | 159 | Slow in fast out from slow to fast      |
|    |                | 160 | - | 191 | Fast in slow out from slow to fast      |
|    |                | 192 | - | 255 | Fast in and fast out from slow to fast  |
| 15 | prism          | 000 | - | 009 | No function                             |
|    |                | 010 | - | 255 | Prism cut                               |
| 16 | Prism Rotation | 000 | - | 063 | 0 - 360°                                |
|    |                | 064 | - | 127 | Rotate forward, going from fast to slow |
|    |                | 128 | - | 191 | Reverse rotation, slow to fast          |
|    |                | 192 | - | 207 | 90° shake                               |
|    |                | 208 | - | 223 | 180° shake                              |

|    |                   |     |   |     |                                    |
|----|-------------------|-----|---|-----|------------------------------------|
|    |                   | 224 | - | 239 | 270° shake                         |
|    |                   | 240 | - | 255 | 360° shake                         |
| 17 | CRI               | 000 | - | 009 | CRI close                          |
|    |                   | 010 | - | 255 | CRI open                           |
| 18 | frost1            | 000 | - | 009 | No function                        |
|    |                   | 010 | - | 255 | Frost cut                          |
| 19 | Frost2            | 000 | - | 009 | No function                        |
|    |                   | 010 | - | 255 | frost cut                          |
| 20 | zoom              | 000 | - | 255 | The Angle goes from large to small |
| 21 | focus             | 000 | - | 255 | 0-100%                             |
| 22 | strobe            | 000 | - | 063 | No function (open light)           |
|    |                   | 064 | - | 095 | Common stroboscope 1Hz to 20Hz     |
|    |                   | 096 | - | 127 | No function (open light)           |
|    |                   | 128 | - | 159 | Pulse stroboscope 1Hz-20Hz         |
|    |                   | 160 | - | 191 | No function (open light)           |
|    |                   | 192 | - | 223 | Random ordinary stroboscopic       |
|    |                   | 224 | - | 255 | No function (open light)           |
| 23 | dimmer            | 000 | - | 255 | Dimming 0% to 100%                 |
| 24 | Dimmer fine       | 000 | - | 255 | Dimming fine 0 to 100%             |
| 25 | Function settings | 000 | - | 010 | No function                        |
|    |                   | 011 | - | 020 | Dimming curve: straight line       |
|    |                   | 021 | - | 030 | Dimming curve: square law          |
|    |                   | 031 | - | 040 | Dimming curve: inverse square law  |
|    |                   | 041 | - | 050 | Dimming curve: S- curve            |
|    |                   | 051 | - | 060 | Fan mode: Auto                     |
|    |                   | 061 | - | 070 | Fan mode: Low speed                |
|    |                   | 071 | - | 080 | Fan mode: High speed               |

|  |  |     |   |     |                            |
|--|--|-----|---|-----|----------------------------|
|  |  | 081 | - | 090 | Dimming frequency: 1200Hz  |
|  |  | 091 | - | 100 | Dimming frequency: 2400Hz  |
|  |  | 101 | - | 110 | Dimming frequency: 4000Hz  |
|  |  | 111 | - | 120 | Dimming frequency: 6000Hz  |
|  |  | 121 | - | 130 | Dimming frequency: 25000Hz |
|  |  | 131 | - | 140 | Dimming speed: fast        |
|  |  | 141 | - | 150 | Dimming speed: Slow        |
|  |  | 151 | - | 160 | Reset all motors           |
|  |  | 161 | - | 170 | P/T motor reset            |
|  |  | 171 | - | 180 | Head motor reset           |
|  |  | 181 | - | 190 | No function                |
|  |  | 191 | - | 200 | No function                |
|  |  | 201 | - | 210 | No function                |
|  |  | 211 | - | 220 | No function                |
|  |  | 221 | - | 230 | No function                |
|  |  | 231 | - | 255 | No function                |

### 29 Channels (Mode3)

| CH | Function  | Value |   |     | Effect       |
|----|-----------|-------|---|-----|--------------|
| 1  | Pan       | 000   | - | 255 | Pan          |
| 2  | Pan Fine  | 000   | - | 255 | Pan Fine     |
| 3  | Tilt      | 000   | - | 255 | Tilt         |
| 4  | Tilt Fine | 000   | - | 255 | Tilt Fine    |
| 5  | P/T Speed | 000   | - | 255 | Fast to slow |
| 6  | C         | 000   | - | 255 | 0-100%       |
| 7  | M         | 000   | - | 255 | 0-100%       |
| 8  | Y         | 000   | - | 255 | 0-100%       |



|    |        |     |   |     |                                           |
|----|--------|-----|---|-----|-------------------------------------------|
| 9  | CTO    | 000 | - | 255 | 0-100%                                    |
| 10 | Color  | 000 | - | 010 | white light                               |
|    |        | 011 | - | 023 | color1                                    |
|    |        | 024 | - | 036 | color2                                    |
|    |        | 037 | - | 049 | color3                                    |
|    |        | 050 | - | 062 | color4                                    |
|    |        | 063 | - | 075 | color5                                    |
|    |        | 076 | - | 088 | color6                                    |
|    |        | 089 | - | 101 | Half color1                               |
|    |        | 102 | - | 114 | Half color2                               |
|    |        | 115 | - | 127 | Half color3                               |
|    |        | 128 | - | 140 | Half color4                               |
|    |        | 141 | - | 153 | Half color5                               |
|    |        | 154 | - | 166 | Half color6                               |
|    |        | 167 | - | 179 | Half color7                               |
|    |        | 180 | - | 187 | white light                               |
|    |        | 188 | - | 219 | Rotate forward, going from fast to slow   |
|    |        | 220 | - | 223 | stop                                      |
|    |        | 224 | - | 255 | Reverse rotation, speed from fast to slow |
| 11 | iris   | 000 | - | 127 | 0-100%                                    |
|    |        | 128 | - | 159 | Slow in fast out from slow to fast        |
|    |        | 160 | - | 191 | Fast in slow out from slow to fast        |
|    |        | 192 | - | 255 | Fast in and fast out from slow to fast    |
| 12 | CRI    | 000 | - | 009 | CRI close                                 |
|    |        | 010 | - | 255 | CRI open                                  |
| 13 | frost1 | 000 | - | 009 | No function                               |
|    |        | 010 | - | 255 | Frost cut                                 |

|    |                   |     |   |     |                                    |
|----|-------------------|-----|---|-----|------------------------------------|
| 14 | frost1            | 000 | - | 009 | No function                        |
|    |                   | 010 | - | 255 | frost cut                          |
| 15 | zoom              | 000 | - | 255 | The Angle goes from large to small |
| 16 | focus             | 000 | - | 255 | 0-100%                             |
| 17 | strobe            | 000 | - | 063 | No function (open light)           |
|    |                   | 064 | - | 095 | Common stroboscope 1Hz to 20Hz     |
|    |                   | 096 | - | 127 | No function (open light)           |
|    |                   | 128 | - | 159 | Pulse stroboscope 1Hz-20Hz         |
|    |                   | 160 | - | 191 | No function (open light)           |
|    |                   | 192 | - | 223 | Random ordinary stroboscopic       |
|    |                   | 224 | - | 255 | No function (open light)           |
| 18 | dimmer            | 000 | - | 255 | Dimming 0% to 100%                 |
| 19 | Dimmer fine       | 000 | - | 255 | Dimming fine 0 to 100%             |
| 20 | Cut rotation      | 000 | - | 255 | 0-90°                              |
| 21 | Cut down 1        | 000 | - | 255 | 0-100%                             |
| 22 | Cut down 2        | 000 | - | 255 | 0-100%                             |
| 23 | Cut on1           | 000 | - | 255 | 0-100%                             |
| 24 | Cut on 2          | 000 | - | 255 | 0-100%                             |
| 25 | Cut left1         | 000 | - | 255 | 0-100%                             |
| 26 | Cut left2         | 000 | - | 255 | 0-100%                             |
| 27 | Cut right1        | 000 | - | 255 | 0-100%                             |
| 28 | Cut right2        | 000 | - | 255 | 0-100%                             |
| 29 | Function settings | 000 | - | 010 | No function                        |
|    |                   | 011 | - | 020 | Dimming curve: straight line       |
|    |                   | 021 | - | 030 | Dimming curve: square law          |
|    |                   | 031 | - | 040 | Dimming curve: inverse square law  |
|    |                   | 041 | - | 050 | Dimming curve: S- curve            |

|  |  |     |   |     |                               |
|--|--|-----|---|-----|-------------------------------|
|  |  | 051 | - | 060 | Fan mode: Auto                |
|  |  | 061 | - | 070 | Fan mode: Low speed           |
|  |  | 071 | - | 080 | Fan mode: High speed          |
|  |  | 081 | - | 090 | Dimming frequency:<br>1200Hz  |
|  |  | 091 | - | 100 | Dimming frequency:<br>2400Hz  |
|  |  | 101 | - | 110 | Dimming frequency:<br>4000Hz  |
|  |  | 111 | - | 120 | Dimming frequency:<br>6000Hz  |
|  |  | 121 | - | 130 | Dimming frequency:<br>25000Hz |
|  |  | 131 | - | 140 | Dimming speed: fast           |
|  |  | 141 | - | 150 | Dimming speed: Slow           |
|  |  | 151 | - | 160 | Reset all motors              |
|  |  | 161 | - | 170 | P/T motor reset               |
|  |  | 171 | - | 180 | Head motor reset              |
|  |  | 181 | - | 190 | No function                   |
|  |  | 191 | - | 200 | No function                   |
|  |  | 201 | - | 210 | No function                   |
|  |  | 211 | - | 220 | No function                   |
|  |  | 221 | - | 230 | No function                   |
|  |  | 231 | - | 255 | No function                   |

## 11.Troubleshooting

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

### **A. The unit does not work, no light and the fan does not work**

1. Check the connected power and main fuse.
2. Measure the voltage.
3. Check the power indicator to see whether it can be lit up or not.

### **B. Not responding to the DMX controller**

1. Check whether the DMX connectors and the DMX cables are connected correctly.

2. Check whether the DMX address is correctly set.
3. If the intermittent DMX signal problem occurs, check whether the XLR socket and the signal cable are well connected.
4. Try it with another DMX controller.
5. Check whether the DMX cables run near or alongside to the high-voltage cables, which may damage or interfere with the signal circuit.

**C. One of the channels is not working well**

1. The stepper motor might be damaged or the cable connected to the PCB might be broken.
2. The motor's drive IC on the PCB might be out of condition.

## **12. Fixture cleaning**

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

A soft lint-free cloth moistened with any good glass cleaning fluid is recommended, under no circumstances should solvents be used.

Always dry the parts carefully.

Clean the external optical lens at least every 20 days and the internal optical lens every 30 days.



#### Contact

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