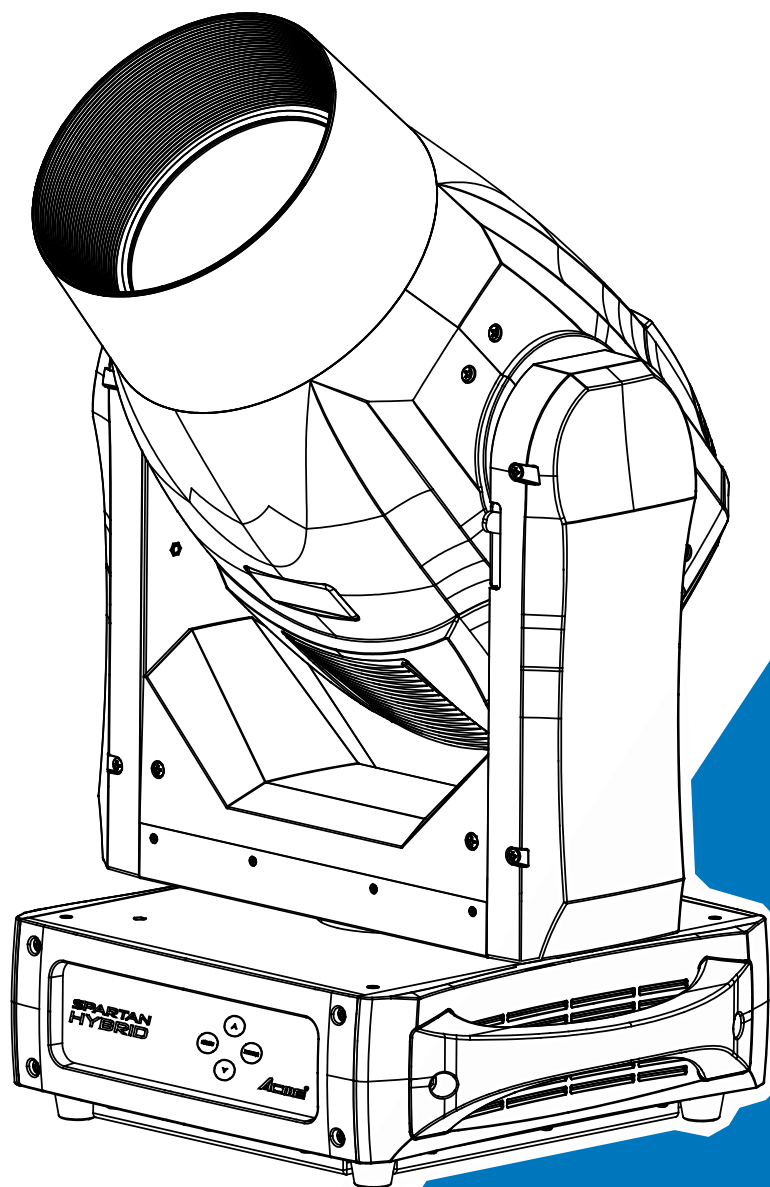




# SPARTAN HYBRID



## User Manual

Please read the instruction carefully before use

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## 1. Safety Instructions



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

### WARNING

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 that there is no transportation damage before using the unit.
- The unit 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 are blocked, otherwise the unit will be overheated.
- Before operating, ensure that the voltage and frequency of power supply match the power requirements of the unit.
- It's important to ground the yellow/green conductor to earth in order to avoid electric shock.
- Ambient temperature TA: 0°C-40°C.
- DO NOT connect the device to any dimmer pack.
- During initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective, and it will decrease gradually within 15 minutes.
- Make sure there are no flammable materials close to the unit while operating to avoid fire hazard.
- Examine the power wires carefully; replace them immediately if there is any damage.
- Unit's surface temperature may reach up to 85°C. DO NOT touch the housing bare-handed during its operation, and allow about 15 minutes for cooling the unit down before replacing bulb or maintenance as it could be very hot.

- Avoid any inflammable liquids, water or metal objects entering the unit. Once it happens, cut off the mains power immediately.
- DO NOT operate in dirty or dusty environment, do clean fixtures regularly.
- DO NOT touch any wire during operation as there might be a hazard of electric shock.
- Avoid power wires together twist other cables.
- The minimum distance between light output and the illuminated surface must be more than 18 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 unit as there are no user serviceable parts inside.
- Never try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center if needed.
- Disconnect the mains power if the fixture is has not been used for a long time.
- DO use the original packing materials before transporting it again.
- To prevent or reduce the risk of electrical shock or fire, do not expose the unit to rain or moisture.
- Hot lamp explosion hazard. DO NOT open the unit within 15 minutes after switching off.
- DO replace the bulb once it is damaged, deformed or life-expired.
- DO NOT look directly at the light while the bulb is on.
- Never touch bulb with bare fingers, as it is very hot after using.
- DO NOT start on the unit without bulb enclosure or when housing is damaged.

## **2. Technical Specifications**

### **Power Voltage**

AC 100~240V, 50/60Hz

### **Power Consumption**

660W

### **Light Source**

Philips MSD Platinum 20R

### **Color Temperature**

7800K

### **Zoom Range**

Beam Mode: 2°~7°

Spot Mode: 5°~32°

Wash Mode: 8°~70°

### **Movement**

Pan: 540°

Tilt: 270°

Pan/Tilt Resolution: 16 bit

Fixation: Tilt lock

### **Color Wheel**

3 color wheels, each of them has 5 colors plus open with rainbow effect

### **Gobo Wheel**

1 static gobo wheel with 18 gobos plus open

1 rotating gobo wheel with 7 gobos plus open, convenient replacement

### **Animation Wheel**

1 animation wheel

### **Prism**

8 facets prism + 6 facets linear prism, rotatable in both directions and overlayable

### **Dimmer/Shutter**

0~100% smooth dimming; various strobe speeds

**Control**

DMX Channel: 34/30/27/24 channels

Control Mode: DMX, Wireless (optional), RDM

Firmware Upgrade: Update via DMX link

**Construction**

Display: LCD display

Battery backup for user setup without mains connection

Data In/Out: 3-pin and 5-pin XLR

Power In/Out: Power Connector in

Protection Rating: IP20

**Features**

Linear motorized zoom 2°~70°

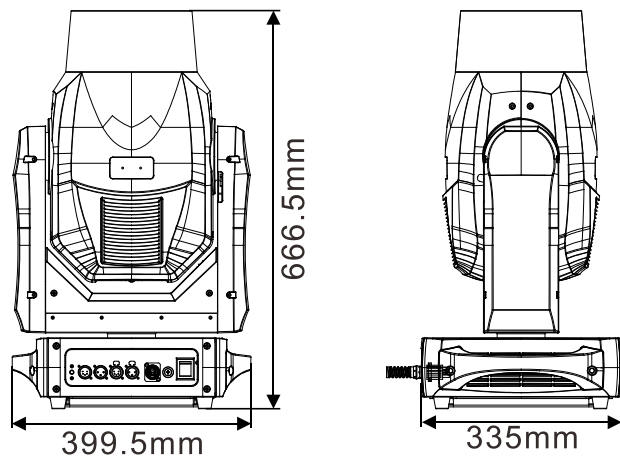
Motorized focus

Linear CMY color mixing

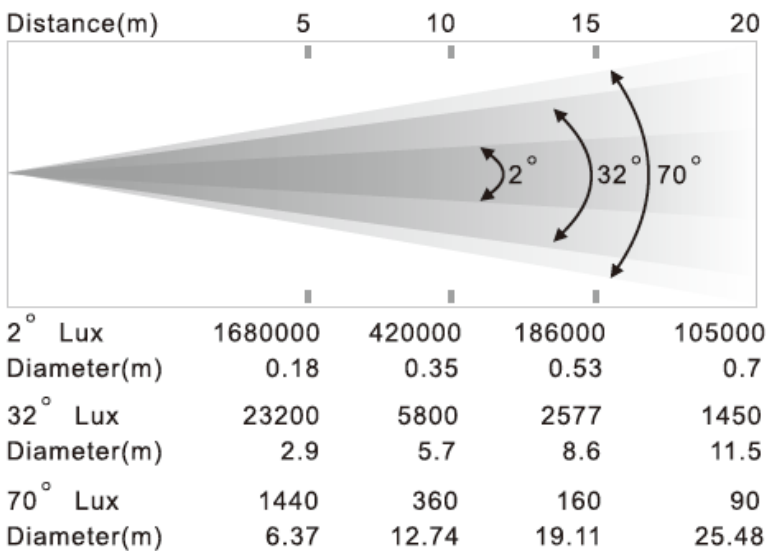
**Weight/Dimension**

399.5 x 335 x 666.5mm, 27kgs

15.7" x 13.2" x 26.2" in, 59.5lbs

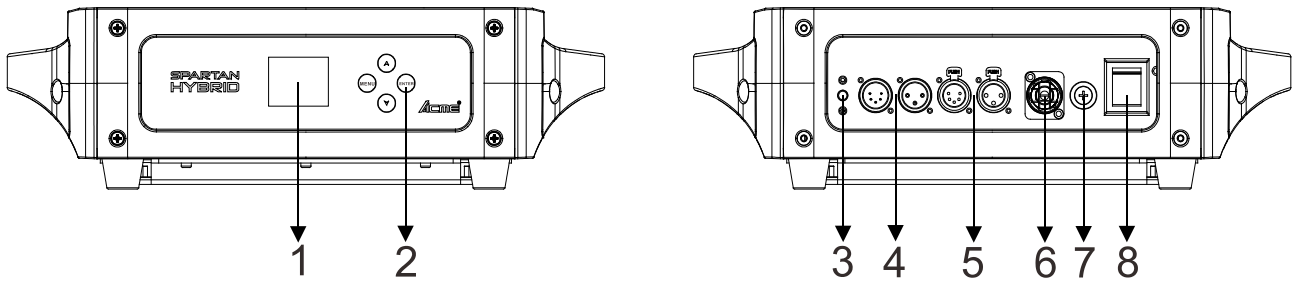


**Photometrics Diagram**



### 3. Description

#### 3.1 Control Panel



**1. Display:** To show the various menus and the selected functions

**2. Button:**

<b>MENU</b>	To enter into move backward or leave the menu
<b>▲ UP</b>	To go backward to move up in the menu
<b>▼ DOWN</b>	To go forward to move down in the menu
<b>ENTER</b>	To perform the desired functions

**3. Battery Display:**

To show battery status

**4. DMX IN:**

DMX 512 operation, use 3-pin/5-pin XLR cable to link the unit and DMX controller

**5. DMX OUT:**

DMX 512 operation, use 3-pin/5-pin XLR cable to link the next unit

**6. Power:**

To connect to supply power

**7. Fuse(T 10A):**

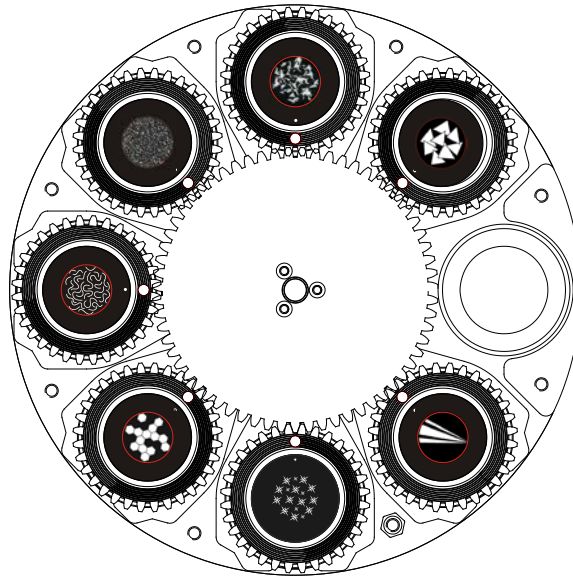
Protect the unit from damage of over current

**8. Power Switch:**

Turns On/Off the power

## 4. Gobo and Lamp

### 4.1 Gobo



#### **DANGER!**

***Install the gobos with the device switched off only.  
Unplug from mains before changing gobos!***

***CAUTION: Never unscrew the screws of the rotating gobo as the ball bearing will otherwise be opened!***

### 4.2 Light Source

#### **Philips MSD Platinum 20R**

For replaceable light sources:

"The light source of this luminaire is not replaceable; when the light source reaches its end of life the whole luminaire shall be replaced".

- Because of its high internal pressure, there might be a risk that the Discharge lamp would explode during operation. The lamp emits intense UV radiation which is harmful to the eyes and skin. The high luminance of the arc can cause severe damage to the retina if you take a close look at the lamp.
- To protect the lamp, always turn off the lamp first (via control panel or DMX controller) and let the unit run at least five minutes to cool down before switching off the mains supply. Never handle the lamp or luminaire when it is hot.



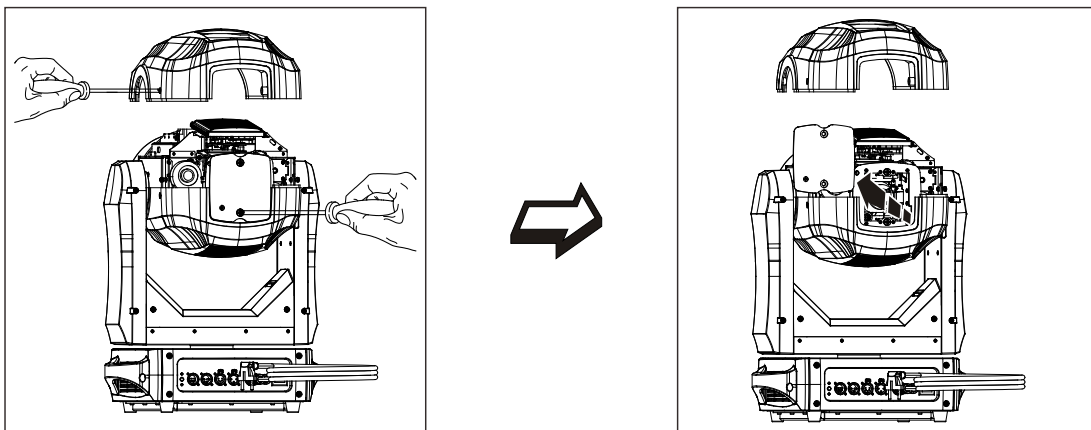
- Do not touch the bulb with bare hands. If this happens, clean the lamp with denatured alcohol and wipe it with a lint free cloth before installation.
- The lamp generates UV radiation. Never operate the lamp without appropriate shielding.
- When lighting up, the lamp operates at high pressure and there is a slight risk of arc tube rupture. The risk increases with age, temperature and improper handling of the lamp. Do not use the lamp longer than its lifespan.
- Make sure the lamp is located in the center of the reflector for the best projection.

### 4.3 Changing the Lamp

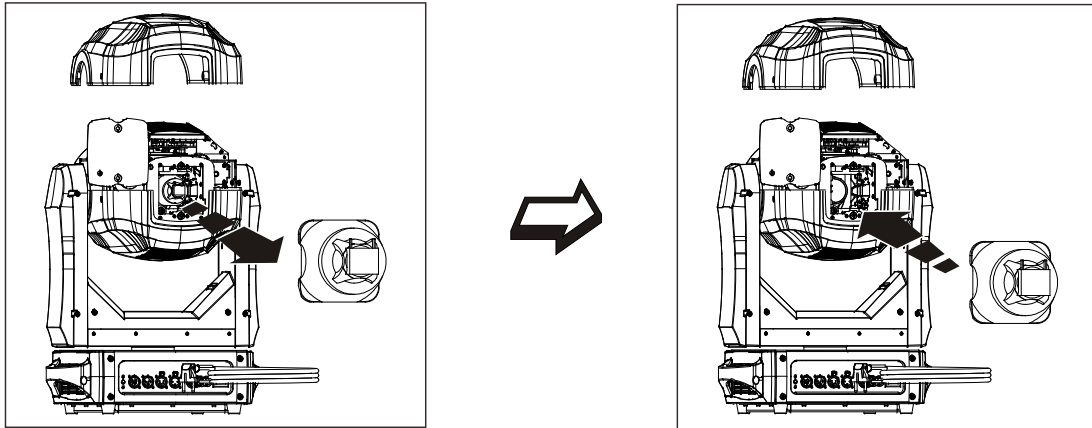
Do not use this lamp more than 1700 hours (normal mode)/2500 hours (sleep mode), using the lamp any longer than its set life could seriously damage your unit. Periodically checking the lamp running time, when the lamp reaches the 1700/2500 hour mark, or close to it, we strongly suggest you switch the lamp out. Clear the RESET TIME after you have replaced the lamp.

#### To replace the lamp:

1. Ensure that the fixture is detached from power and has cooled down completely. It is a good idea to allow the fixture to run for 10 minutes after the lamp has been turned off, so that the cooling fans have time to work.
2. Loosen the screws on the head of the fixture and open the fixture head covers.



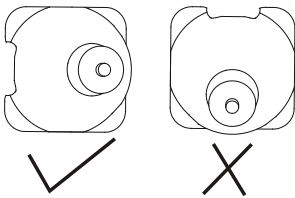
3. Unplug the leads of the lamp and lift the lamp out of its recess, disconnect the lamp and connect a new lamp that must be the same type with the old one. And then place the new lamp into the lamp recess.



Finally reinstall the head cover, fastening it securely before reapplying power.

**Warning:**

The installing direction of lamp:

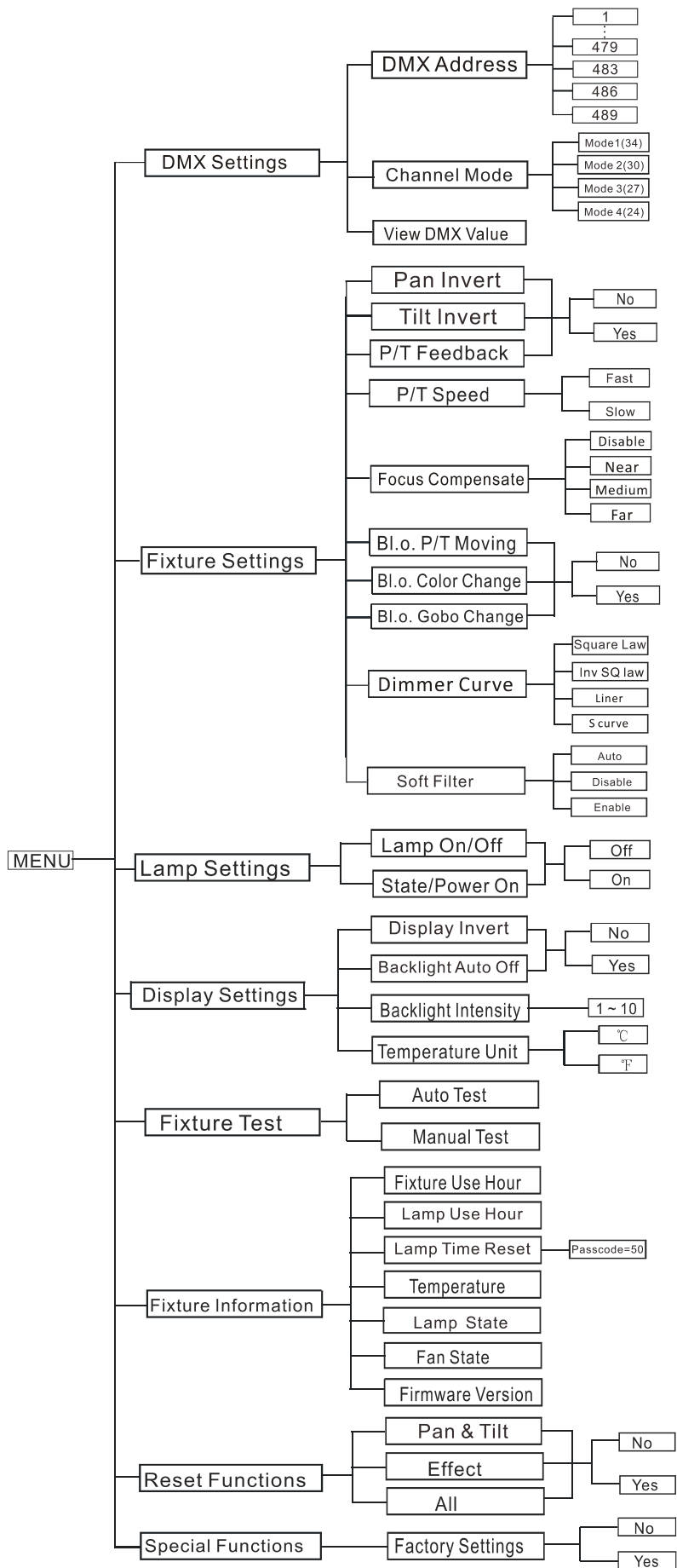


## 5. How To Set The Unit

### 5.1 Main Function

Turn on the unit, press the **MENU** button into menu mode, and press the **UP/DOWN** button until the required function is shown on the monitor. Select the function by the **ENTER** button. Use the **UP/DOWN** button to choose the submenu, press the **ENTER** button to store and automatically return to the last menu. Press the **MENU** button or let the unit idle one minute to exit menu mode.

The main functions are shown below:



## ***DMX Settings***

To select ***DMX Settings***, press the **ENTER** button to confirm, use the **UP/DOWN** button to select ***DMX Address, Channel Mode*** or ***View DMX Value***.

### **DMX Address**

To select **DMX Address**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to adjust the address from **001** to **479/483/486/489**, press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **Channel Mode**

To select **Channel Mode**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Mode1 (34), Mode2 (30), Mode3 (27)** or **Mode4 (24)** channels mode, press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **View DMX Value**

To select **View DMX Value**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to view the DMX channel value. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

## ***Fixture Settings***

To select ***Fixture Settings***, press the **ENTER** button to confirm, use the **UP/DOWN** button to select ***Pan Invert, Tilt Invert, P/T Feedback, P/T Speed, Focus Compensate, BL.O. P/T Moving, BL.O. Color Change, BL.O. Gobo Change, Dimmer Curve*** or ***Soft Filter***.

### **Pan Invert**

To select **Pan Invert**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **No** (normal) or **Yes** (pan invert), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **Tilt Invert**

To select **Tilt Invert**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **No** (normal) or **Yes** (tilt invert), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **P/T Feedback**

To select **P/T Feedback**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **No** (Pan or tilt's position will not feedback while out of step) or **Yes** (Feedback while pan/tilt out of step), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **P/T Speed**

To select **P/T Speed**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Fast** or **Slow**, press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **Focus Compensate**

To select **Focus Compensate**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Disable**, **Near**, **Medium** or **Far**, press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **BL.O. P/T Moving** —Blackout while pan/tilt moving

To select **BL.O. P/T Moving**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **No** (normal while pan/tilt moving) or **Yes** (blackout while pan/tilt moving), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **BL.O.Color Change** —Blackout while Color Change

To select **BL.O. Color Change**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **No** (normal while color change) or **Yes** (blackout while color change), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

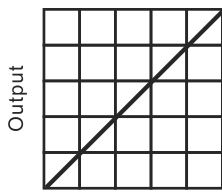
### **BL.O.Gobo Change** —Blackout while Gobo Change

To select **BL.O. Gobo Change**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **No** (normal while gobo change) or **Yes** (blackout while gobo change), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

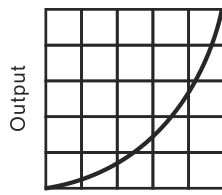
### **Dimmer Curve**

To select **Dimmer Curve**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Square Law**, **Inv SQ Law**, **Liner** or **S Curve**, press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

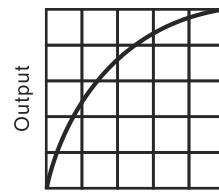
## Dimmer Modes



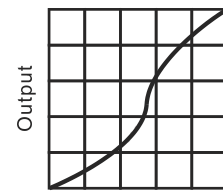
Optically Linear



Square Law



Inverse Square Law



S-curve

### **Mode 1(Optically Linear):**

The increase in light intensity appears to be linear as DMX value is increased.

### **Mode 2(Square Law):**

Light intensity control is finer at low levels and coarser at high levels.

### **Mode 3(Inverse Square Law):**

Light intensity control is coarser at low levels and finer at high levels.

### **Mode 4(S-cure):**

Light intensity control is finer at low levels and high levels and coarser at medium levels.

#### **Soft Filter**

To select **Soft Filter**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Auto**, **Disable** or **Enable**, press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

## **Lamp Settings**

To select **Lamp Settings**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Lamp On/Off** or **State/Power On**.

#### **Lamp On/Off** —Turn on/off the lamp

To select **Lamp On/Off**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **On** (lamp on) or **Off** (lamp off), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

#### **State/Power On** — Lamp state while power on

To select **State/Power On**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **On** (Lamp on while power on) or **Off** (Lamp off while power on), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

## ***Display Settings***

Enter menu mode, select ***Display Settings***, press the **ENTER** button to confirm, use the **UP/DOWN** button to select ***Display Invert, Backlight Auto Off, Backlight Intensity*** or ***Temperature Unit***.

### **Display Invert**

Select **Display Invert**, press the **ENTER** button to confirm, present mode will blink on the display, use the **UP/DOWN** button to select **No** (normal display) or **Yes** (invert display), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **Backlight Auto Off**

Select **Backlight Auto Off**, press the **ENTER** button to confirm, present mode will blink on the display, use the **UP/DOWN** button to select **No** or **Yes**, press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **Backlight Intensity**

Select **Backlight Intensity**, press the **ENTER** button to confirm, present mode will blink on the display, use the **UP/DOWN** button to adjust backlight intensity from **1** (dark) to **10** (bright), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **Temperature Unit**

Select **Temperature Unit**, press the **ENTER** button to confirm, present mode will blink on the display, use the **UP/DOWN** button to select **°C** or **°F**, press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

## ***Fixture Test***

Enter menu mode, select ***Fixture Test***, press the **ENTER** button to confirm, use the **UP/DOWN** button to select ***Auto Test*** or ***Manual Test***.

### **Auto Test**

Select **Auto Test**, press the **ENTER** button to confirm, the unit will run built-in programs to automatically test pan, tilt, color, shutter, dimmer, gobo, gobo rotation, prism, prism rotation, frost, zoom, focus, etc. Press the **MENU** button back to the last menu or exit menu mode after auto test.

## **Manual Test**

Select **Manual Test**, press the **ENTER** button to confirm, the present channel will show on the display, use the **UP/DOWN** button to select channel, press the **ENTER** button to confirm, then use the **UP** and **DOWN** button to adjust the value, press the **ENTER** button to store, the fixture will run as the channel value indicates. Press the **MENU** button back to the last menu or exit menu mode idling one minute.

*(All channels value will become 0 after exiting Manual Test menu)*

## **Fixture Information**

Enter menu mode, select **Fixture Information**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Fixture Use Hour, Lamp Use Hour, Lamp Time Reset, Temperature, Lamp State, Fan State** or **Firmware Version**.

### **Fixture Use Hour**

Select **Fixture Use Hour**, press the **ENTER** button to confirm, fixture use time will show on the display, press the **MENU** button to exit.

### **Lamp Use Hour**

Select **Lamp Use Hour**, press the **ENTER** button to confirm, lamp use time will show on the display, press the **MENU** button to exit.

### **Lamp Time Reset**

Select **Lamp Time Reset**, press the **ENTER** button to confirm, set the passcode to 50 and the fixture will reset the lamp use time, press the **MENU** button to exit.

### **Temperature**

Select **Temperature**, press the **ENTER** button to confirm, fixture temperature will show on the display, press the **MENU** button to exit.

### **Lamp State**

Select **Lamp State**, press the **ENTER** button to confirm, fixture lamp state will show on the display, press the **MENU** button to exit.

### **Fan State**

Select **Fan State**, press the **ENTER** button to confirm, fixture fan state will show on the display, press the **MENU** button to exit.



## **Firmware Version**

Select **Firmware Version**, press the **ENTER** button to confirm, firmware version will show on the display, press the **MENU** button back to exit.

## ***Reset Functions***

Enter menu mode, select **Reset Function**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Pan & Tilt**, **Effect** or **All**.

### **Pan & Tilt** —Reset Pan/Tilt

Select **Pan & Tilt**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **No** (normal) or **Yes** (the unit will run built-in program to reset pan and tilt to their home positions), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **Effect** —Reset Effect

Select **Effect**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **No** (normal) or **Yes** (the unit will run built-in program to reset effect to their home positions), press the **ENTER** button to store. Press the **MENU** button back to the last menu or let the unit idle one minute to exit menu mode.

### **All** — Reset All

Select **All**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **No** (normal) or **Yes** (the unit will run built-in program to reset all motors to their home positions), press **ENTER** button to store. Press the **MENU** button to exit.

## ***Special Functions***

### **Factory Settings**

Select **Factory Settings**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **No** (normal) or **Yes** (the fixture will reset to factory settings), press **ENTER** button to store. Press the **MENU** button to exit.

## ***RDM FUNCTIONS***

Select the MANUFACTURER menu to display the manufacturer of the fixture.

Select the SOFTWARE VERSION menu and the program version number of the fixture will be displayed.

Select the DMX START ADDRESS menu to change the DMX 512 address (001-512).

Select the DEVICE MODEL DESCRIPTION menu to display the model of the fixture.

Select the DEVICE LABEL menu to change the model of the fixture.

Select the DMX PERSONALITY menu to set the channel mode of the fixture (34/30/27/24 channel).

Select the DMX PERSONALITY DESCRIPTION menu to display the current channel mode of the fixture.

Select the DEVICE HOURS menu to display the running time of the fixture.

Select the LAMP HOURS menu to display the running time of the lamp.

Select the LAMP STATE menu to turn on/off the lamp.

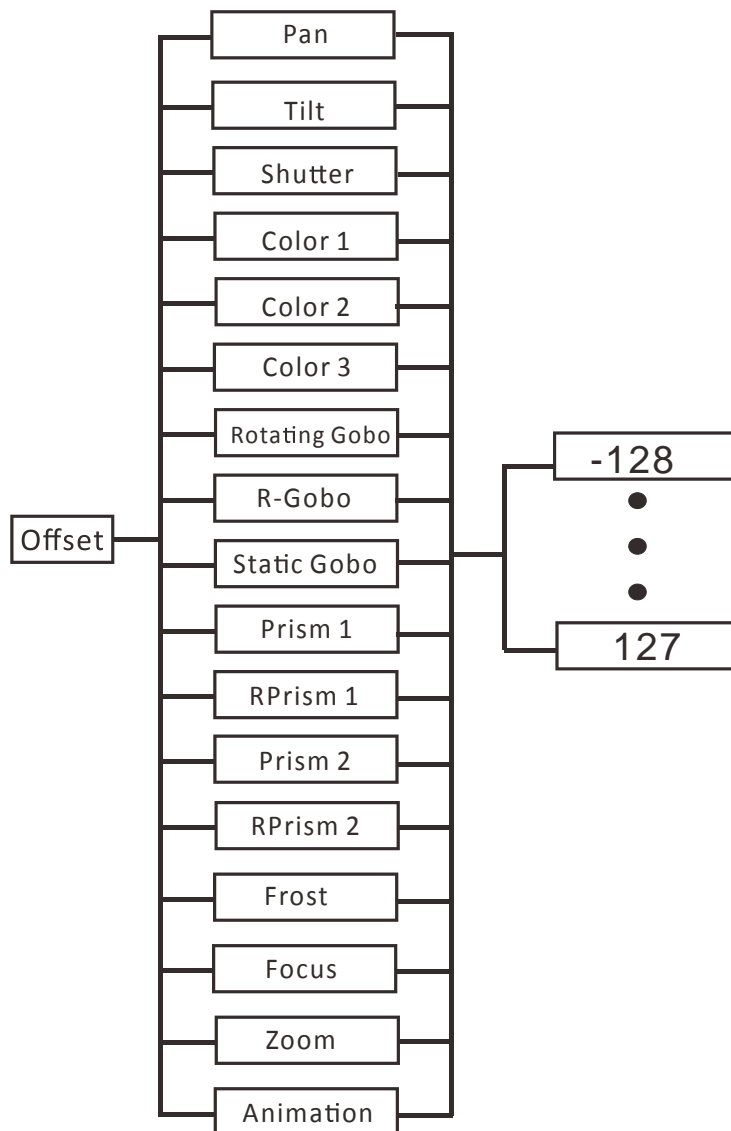
Select the PAN INVERT menu and the fixture will run the pan invert mode.

Select the TILT INVERT menu and the fixture will run the tilt invert mode.

Select the RESET DEVICE menu, the WARM RESET/COLD RESET option will be displayed. When WARM RESET is selected, the fixture will start a warm reset, and exit when COLD RESET is selected.

### **5.2 Home Position Adjustment**

Press the **MENU** button into menu mode, then press the **ENTER** button for about 3 seconds into offset mode to adjust the home position. Select the function by the **ENTER** button. Use the **UP/DOWN** button to choose the submenu, press the **ENTER** button to store and automatically return to the last menu. Press MENU button to exit.



**Pan**—pan home position adjustment

Enter offset mode, Select **Pan**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Tilt**—Tilt home position adjustment

Enter offset mode, Select **Tilt**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Shutter**—Shutter home position adjustment

Enter offset mode, Select **Shutter**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Color 1**—Color 1 home position adjustment

Enter offset mode, Select **Color 1**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Color 2**—Color 2 home position adjustment

Enter offset mode, Select **Color 2**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Color 3**—Color 3 home position adjustment

Enter offset mode, Select **Color 3**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Rotating Gobo**—Rotating Gobo home position adjustment

Enter offset mode, Select **Rotating Gobo**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**R-Gobo**—Gobo Rotation home position adjustment

Enter offset mode, Select **R-Gobo**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Static Gobo**—Static Gobo home position adjustment

Enter offset mode, Select **Static Gobo**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Prism 1**—Prism 1 home position adjustment

Enter offset mode, Select **Prism 1**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**R-Prism 1**—R-Prism 1 rotation home position adjustment

Enter offset mode, Select **R-Prism 1**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Prism 2**—Prism 2 home position adjustment

Enter offset mode, Select **Prism 2**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**R-Prism 2**—R-Prism 2 rotation home position adjustment

Enter offset mode, Select **R-Prism 2**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Frost**—Frost home position adjustment

Enter offset mode, Select **Frost**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Focus**—Focus home position adjustment

Enter offset mode, Select **Focus**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Zoom**—Zoom home position adjustment

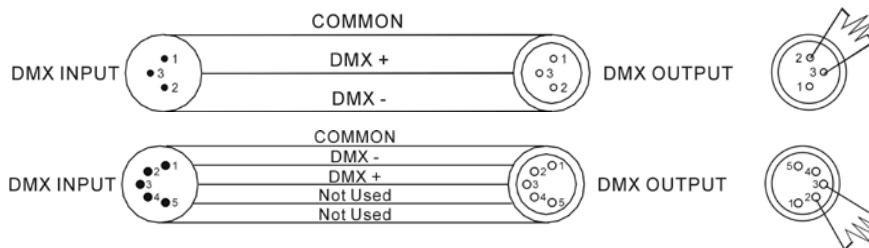
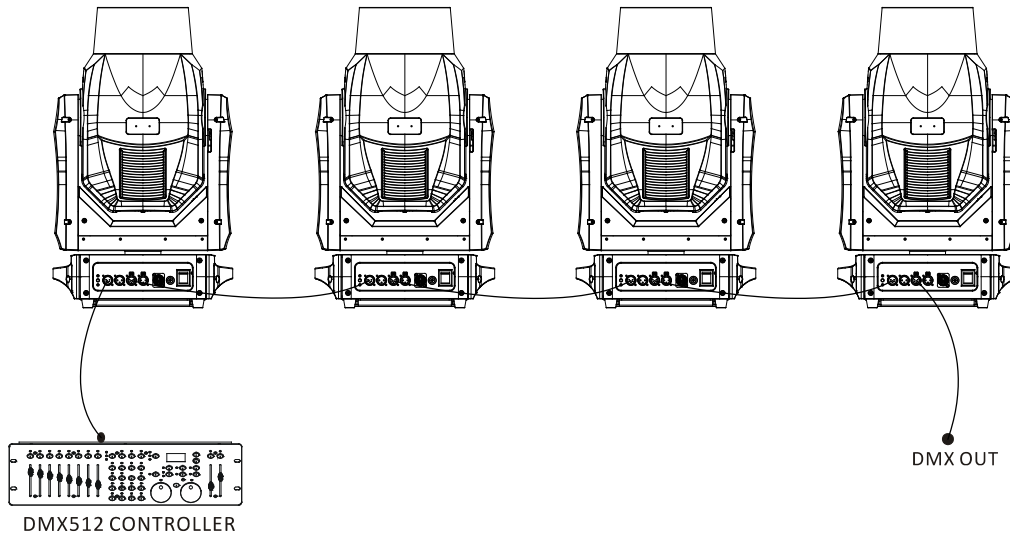
Enter offset mode, Select **Zoom**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Animation**—Animation home position adjustment

Enter offset mode, Select **Animation**, press the **ENTER** button to confirm, the present position will blink on the display, use the **UP/DOWN** button to offset the value from -128 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

## 6. Control By Universal DMX Controller

### 6.1 Connection



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 cannot be branched or split to a “Y” cable. 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 0-511 (usually 0 & 1 are equal to 1).
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.

## 6.2 Address 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 be blinking on 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 idling let the unit idle one minute 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 channels	1	35	69	103
30 channels	1	31	61	91
27 channels	1	28	55	82
24 channels	1	25	49	73

## 6.3 DMX 512 Configuration

Please refer to below configurations to control the fixtures.

### Attentions:

1. The unit will maintain the last condition until reset if you cut-off the DMX signal.
2. For the channel Function, keep the value for about 5 seconds, then the corresponding function will take into effect.

### 34 Channels (Mode 1):

CHANNEL	Value	FUNCTION
1	000-255	<b>Cyan color wheel</b> Linear Cyan movement
2	000-255	<b>Magenta color wheel</b> Linear Magenta movement
3	000-255	<b>Yellow color wheel</b> Linear Yellow movement
4	000-027	<b>Color 1</b> Empty position

	028-049 050-079 080-099 100-128 129-149 150-180 181-203 204-234 235-254 255	Empty + Soft Filter Soft Filter Soft Filter + Lavender Lavender Lavender + CTO 3200K CTO 3200K CTO 3200K + CTO 2500K CTO 2500K CTO 2500K + Blue Wood(UV Filter) Blue Wood(UV Filter)
5	000-027 028-049 050-074 075-099 100-128 129-149 150-177 178-199 200-234 235-254 255	<b>Color 2</b> Empty position Empty + Dark Green Dark Green Dark Green + CTB CTB CTB + Dark Blue Dark Blue Dark Blue + H.M.Green H.M.Green H.M.Green + Dark Red Dark Red
6	000-027 028-049 050-076 077-099 100-128 129-149 150-180 181-199 200-230 231-254 255	<b>Color 3</b> Empty position Empty + Light Green Light Green Light Green + Pink Pink Pink + Aquamarine Aquamarine Aquamarine + Dark Orange Dark Orange Dark Orange + Light Orange Light Orange
7	000-003 004-103 104-107 108-207 208-212 213-225 226-238 239-251 252-255	<b>Strobe</b> Light OFF Strobe from slow to fast Light ON Pulsation from slow to fast Light ON Random Strobe at low frequency Random Strobe at medium frequency Random Strobe at high frequency Light ON
8	000-255	<b>Dimmer</b> 0% ~ 100%
9		<b>Dimmer Fine</b>



	000-255	Fine Dimmer positioning
<b>10</b>	000-003 004-007 008-011 012-015 016-018 019-022 023-026 027-030 031-034 035-037 038-041 042-045 046-049 050-053 054-056 057-060 061-064 065-068 069-071 072-113 114-117 118-159 160-165 166-170 171-175 176-181 182-186 187-191 192-197 198-202 203-207 208-214 215-218 219-223 224-229 230-234 235-239 240-245 246-250 251-255	<b>Static GOBO Change</b> Empty position Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo7 Gobo8 Gobo9 Gobo10 Gobo11 Gobo12 Gobo13 Gobo14 Gobo15 Gobo16 Gobo17 Gobo18 Clockwise rotation from fast to slow Stop rotation Counter-clockwise rotation from slow to fast Gobo1 shaking slow to fast Gobo2 shaking slow to fast Gobo3 shaking slow to fast Gobo4 shaking slow to fast Gobo5 shaking slow to fast Gobo6 shaking slow to fast Gobo7 shaking slow to fast Gobo8 shaking slow to fast Gobo9 shaking slow to fast Gobo10 shaking slow to fast Gobo11 shaking slow to fast Gobo12 shaking slow to fast Gobo13 shaking slow to fast Gobo14 shaking slow to fast Gobo15 shaking slow to fast Gobo16 shaking slow to fast Gobo17 shaking slow to fast Gobo18 shaking slow to fast
<b>11</b>	000-063 064-127 128-255	<b>Animation Disk Insertion</b> White Frost Linear Animation Disk Insertion

<b>12</b>	000-124 125-130 131-255	<b>Animation Disk Rotation</b> Clockwise rotation from fast to slow Stop rotation Counter-clockwise rotation from slow to fast
<b>13</b>	000-018 019-037 038-055 056-074 075-092 093-111 112-129 130-150 151-171 172-192 193-213 214-234 235-255	<b>Rotating GOBO Select</b> Empty position Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo1 shaking slow to fast Gobo2 shaking slow to fast Gobo3 shaking slow to fast Gobo4 shaking slow to fast Gobo5 shaking slow to fast Gobo6 shaking slow to fast
<b>14</b>	000-021 022-042 043-063 064-084 085-105 106-127 128-190 191-192 193-255	<b>GOBO Rotation</b> Gobo indexing: 0° to 90° range Gobo indexing: 90° to 180° range Gobo indexing: 180° to 270° range Gobo indexing: 270° to 360° range Gobo indexing: 360° to 450° range Gobo indexing: 450° to 540° range Rotate from fast to slow Stop rotation Rotate from slow to fast
<b>15</b>	000-255	<b>Fine Gobo Rotation</b> Fine Gobo Indexing
<b>16</b>	000-010 011-132 133-223 224-255	<b>Prism Insertion</b> Prism out Prism 1 into the light beam Prism 2 into the light beam Prism 1/ 2 into the light beam
<b>17</b>	000-021 022-042 043-063 064-084 085-105 106-127 128-190 191-192 193-255	<b>Prisms Rotation</b> Prism indexing: 0° to 90° range Prism indexing: 90° to 180° range Prism indexing: 180° to 270° range Prism indexing: 270° to 360° range Prism indexing: 360° to 450° range Prism indexing: 450° to 540° range Rotate from fast to slow Stop rotation Rotate from slow to fast
<b>18</b>	000-255	<b>Frost</b> 0% ~ 100%

<b>19</b>	000-255	<b>Zoom</b> Zoom linearly moves from narrow to wide beam
<b>20</b>	000-255	<b>Focus</b> 0% ~ 100%
<b>21</b>	000-255	<b>Focus Fine</b> Fine Focus positioning
<b>22</b>	000-127 128-191 192-255	<b>Beam Mode</b> Zoom/Autofocus mode Beam Mode Wash Mode
<b>23</b>	000-255	<b>Pan</b> 0% ~ 100%
<b>24</b>	000-255	<b>Pan Fine</b> Fine Pan positioning
<b>25</b>	000-255	<b>Tilt</b> 0% ~ 100%
<b>26</b>	000-255	<b>Tilt Fine</b> Fine Tilt positioning
<b>27</b>	000-011 012-024 025-037 038-114 115-127 128-140 141-153 154-166 167-179 180-192 193-205 206-255	<b>Function</b> Unused range Fast Pan/Tilt Speed (default) Normal Pan/Tilt Speed Unused range Soft Filter Auto Soft Filter Disable Soft Filter Enable Focus Compensate Disable Focus Compensate Near Focus Compensate Medium Focus Compensate Far Unused range
<b>28</b>	000-025 026-076 077-127 128-255	<b>Reset</b> Unused range Zoom Reset Pan/Tilt Reset Complete Reset
<b>29</b>	000-025 026-100 101-255	<b>Lamp Control</b> Unused range Lamp OFF Lamp ON
<b>30</b>	000-007 008-015 016-035 036-055 056-075 076-095	<b>Macro effects</b> Macro Off Standby Zoom in fade (black) Zoom out fade(black) Zoom in fade out fade(no black) Zoom in fade(no black)

	096-115 116-135 136-155 156-175 176-195 196-215 216-225 226-255	Zoom out fade(no black) Standby Zoom in Fade Zoom out Fade Zoom in fade out fade (no black) Zoom in fade (no black) Zoom out fade (no black) Standby
<b>31</b>	000-255	<b>Pan-Tilt Time</b> Pan-Fine Pan-Tilt-Fine Tilt
<b>32</b>	000-255	<b>Color Time</b> Cyan-Magenta-Yellow
<b>33</b>	000-255	<b>Beam Time</b> Dimmer-Frost-Prism-Focus-Zoom
<b>34</b>	000-255	<b>Gobo Time</b> Static Gobo-Rotating Gobo

**30 Channels (Mode 2):**

<b>CHANNEL</b>	<b>Value</b>	<b>FUNCTION</b>
<b>1</b>	000-255	<b>Cyan color wheel</b> Linear Cyan movement
<b>2</b>	000-255	<b>Magenta color wheel</b> Linear Magenta movement
<b>3</b>	000-255	<b>Yellow color wheel</b> Linear Yellow movement
<b>4</b>	000-027 028-049 050-079 080-099 100-128 129-149 150-180 181-203 204-234 235-254 255	<b>Color 1</b> Empty position Empty + Soft Filter Soft Filter Soft Filter + Lavender Lavender Lavender + CTO 3200K CTO 3200K CTO 3200K + CTO 2500K CTO 2500K CTO 2500K + Blue Wood(UV Filter) Blue Wood(UV Filter)
<b>5</b>	000-027 028-049 050-074 075-099 100-128 129-149 150-177 178-199	<b>Color 2</b> Empty position Empty + Dark Green Dark Green Dark Green + CTB CTB CTB + Dark Blue Dark Blue Dark Blue + H.M.Green

	200-234 235-254 255	H.M.Green H.M.Green + Dark Red Dark Red
<b>6</b>	000-027 028-049 050-076 077-099 100-128 129-149 150-180 181-199 200-230 231-254 255	<b>Color 3</b> Empty position Empty + Light Green Light Green Light Green + Pink Pink Pink + Aquamarine Aquamarine Aquamarine + Dark Orange Dark Orange Dark Orange + Light Orange Light Orange
<b>7</b>	000-003 004-103 104-107 108-207 208-212 213-225 226-238 239-251 252-255	<b>Strobe</b> Light OFF Strobe from slow to fast Light ON Pulsation from slow to fast Light ON Random Strobe at low frequency Random Strobe at medium frequency Random Strobe at high frequency Light ON
<b>8</b>	000-255	<b>Dimmer</b> 0% ~ 100%
<b>9</b>	000-255	<b>Dimmer Fine</b> Fine Dimmer positioning
<b>10</b>	000-003 004-007 008-011 012-015 016-018 019-022 023-026 027-030 031-034 035-037 038-041 042-045 046-049 050-053 054-056 057-060 061-064	<b>Static GOBO Change</b> Empty position Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo7 Gobo8 Gobo9 Gobo10 Gobo11 Gobo12 Gobo13 Gobo14 Gobo15 Gobo16

	065-068 069-071 072-113 114-117 118-159 160-165 166-170 171-175 176-181 182-186 187-191 192-197 198-202 203-207 208-214 215-218 219-223 224-229 230-234 235-239 240-245 246-250 251-255	Gobo17 Gobo18 Clockwise rotation from fast to slow Stop rotation Counter-clockwise rotation from slow to fast Gobo1 shaking slow to fast Gobo2 shaking slow to fast Gobo3 shaking slow to fast Gobo4 shaking slow to fast Gobo5 shaking slow to fast Gobo6 shaking slow to fast Gobo7 shaking slow to fast Gobo8 shaking slow to fast Gobo9 shaking slow to fast Gobo10 shaking slow to fast Gobo11 shaking slow to fast Gobo12 shaking slow to fast Gobo13 shaking slow to fast Gobo14 shaking slow to fast Gobo15 shaking slow to fast Gobo16 shaking slow to fast Gobo17 shaking slow to fast Gobo18 shaking slow to fast
<b>11</b>	000-063 064-127 128-255	<b>Animation Disk Insertion</b> White Frost Linear Animation Disk Insertion
<b>12</b>	000-124 125-130 131-255	<b>Animation Disk Rotation</b> Clockwise rotation from fast to slow Stop rotation Counter-clockwise rotation from slow to fast
<b>13</b>	000-018 019-037 038-055 056-074 075-092 093-111 112-129 130-150 151-171 172-192 193-213 214-234 235-255	<b>Rotating GOBO Select</b> Empty position Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo1 shaking slow to fast Gobo2 shaking slow to fast Gobo3 shaking slow to fast Gobo4 shaking slow to fast Gobo5 shaking slow to fast Gobo6 shaking slow to fast
<b>14</b>	000-021	<b>GOBO Rotation</b> Gobo indexing: 0° to 90° range

	022-042 043-063 064-084 085-105 106-127 128-190 191-192 193-255	Gobo indexing: 90° to 180° range Gobo indexing: 180° to 270° range Gobo indexing: 270° to 360° range Gobo indexing: 360° to 450° range Gobo indexing: 450° to 540° range Rotate from fast to slow Stop rotation Rotate from slow to fast
<b>15</b>	000-255	<b>Fine Gobo Rotation</b> Fine Gobo Indexing
<b>16</b>	000-010 011-132 133-223 224-255	<b>Prism Insertion</b> Prism out Prism 1 into the light beam Prism 2 into the light beam Prism 1/ 2 into the light beam
<b>17</b>	000-021 022-042 043-063 064-084 085-105 106-127 128-190 191-192 193-255	<b>Prisms Rotation</b> Prism indexing: 0° to 90° range Prism indexing: 90° to 180° range Prism indexing: 180° to 270° range Prism indexing: 270° to 360° range Prism indexing: 360° to 450° range Prism indexing: 450° to 540° range Rotate from fast to slow Stop rotation Rotate from slow to fast
<b>18</b>	000-255	<b>Frost</b> 0% ~ 100%
<b>19</b>	000-255	<b>Zoom</b> Zoom linearly moves from narrow to wide beam
<b>20</b>	000-255	<b>Focus</b> 0% ~ 100%
<b>21</b>	000-255	<b>Focus Fine</b> Fine Focus positioning
<b>22</b>	000-127 128-191 192-255	<b>Beam Mode</b> Zoom/Autofocus mode Beam Mode Wash Mode
<b>23</b>	000-255	<b>Pan</b> 0% ~ 100%
<b>24</b>	000-255	<b>Pan Fine</b> Fine Pan positioning
<b>25</b>	000-255	<b>Tilt</b> 0% ~ 100%
<b>26</b>	000-255	<b>Tilt Fine</b> Fine Tilt positioning
<b>27</b>	000-011	<b>Function</b> Unused range

	012-024 025-037 038-114 115-127 128-140 141-153 154-166 167-179 180-192 193-205 206-255	Fast Pan/Tilt Speed (default) Normal Pan/Tilt Speed Unused range Soft Filter Auto Soft Filter Disable Soft Filter Enable Focus Compensate Disable Focus Compensate Near Focus Compensate Medium Focus Compensate Far Unused range
<b>28</b>	000-025 026-076 077-127 128-255	<b>Reset</b> Unused range Zoom Reset Pan/Tilt Reset Complete Reset
<b>29</b>	000-025 026-100 101-255	<b>Lamp Control</b> Unused range Lamp OFF Lamp ON
<b>30</b>	000-007 008-015 016-035 036-055 056-075 076-095 096-115 116-135 136-155 156-175 176-195 196-215 216-225 226-255	<b>Macro effects</b> Macro Off Standby Zoom in fade (black) Zoom out fade(black) Zoom in fade out fade(no black) Zoom in fade(no black) Zoom out fade(no black) Standby Zoom in Fade Zoom out Fade Zoom in fade out fade (no black) Zoom in fade (no black) Zoom out fade (no black) Standby

**27 Channels (Mode 3):**

CHANNEL	Value	Function
<b>1</b>	000-255	<b>Pan</b> 0% ~ 100%
<b>2</b>	000-255	<b>Pan Fine</b> Fine Pan positioning
<b>3</b>	000-255	<b>Tilt</b> 0% ~ 100%
<b>4</b>		<b>Tilt Fine</b>



	000-255	Fine Tilt positioning
<b>5</b>	000-254 255	<b>X/Y-Speed</b> Fast → Slow Fast
<b>6</b>	000-009 010-014 015-029 030-034 035-039 040-044 045-049 050-059 060-064 065-069 070-074 075-079 080-084 085-089 090-104 105-109 110-114 115-119 120-124 125-129 130-134 135-139 140-255	<b>Function</b> No Function Reset All Reset Effect Reset XY No Function Lamp On Lamp Off No Function Dimmer Curve Square Law Dimmer Curve Inverse Square Law Dimmer Curve Linear Dimmer Curve S X/Y Speed Fast X/Y Speed Slow No Function Focus Compensate Disable Focus Compensate Near Focus Compensate Medium Focus Compensate Far Soft Filter Auto Soft Filter Disable Soft Filter Enable No Function
<b>7</b>	000-255	<b>Cyan color wheel</b> Linear Cyan movement
<b>8</b>	000-255	<b>Magenta color wheel</b> Linear Magenta movement
<b>9</b>	000-255	<b>Yellow color wheel</b> Linear Yellow movement
<b>10</b>	000-027 028-049 050-079 080-099 100-128 129-149 150-180 181-203 204-234 235-254 255	<b>Color 1</b> Empty position Empty + Soft Filter Soft Filter Soft Filter + Lavender Lavender Lavender + CTO 3200K CTO 3200K CTO 3200K + CTO 2500K CTO 2500K CTO 2500K + Blue Wood(UV Filter) Blue Wood(UV Filter)

<p style="text-align: center;"><b>11</b></p>	<p>000-027 028-049 050-074 075-099 100-128 129-149 150-177 178-199 200-234 235-254 255</p>	<p style="text-align: center;"><b>Color 2</b></p> <p>Empty position Empty + Dark Green Dark Green Dark Green + CTB CTB CTB + Dark Blue Dark Blue Dark Blue + H.M.Green H.M.Green H.M.Green + Dark Red Dark Red</p>
<p style="text-align: center;"><b>12</b></p>	<p>000-027 028-049 050-076 077-099 100-128 129-149 150-180 181-199 200-230 231-254 255</p>	<p style="text-align: center;"><b>Color3</b></p> <p>Empty position Empty + Light Green Light Green Light Green + Pink Pink Pink + Aquamarine Aquamarine Aquamarine + Dark Orange Dark Orange Dark Orange + Light Orange Light Orange</p>
<p style="text-align: center;"><b>13</b></p>	<p>000-007 008-015 016-023 024-031 032-039 040-047 048-055 056-063 064-094 095-098 099-129 130-147 148-165 166-183 184-201 202-219 220-237 238-255</p>	<p style="text-align: center;"><b>Rotating GOBO Select</b></p> <p>Empty position Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo7 Continuous gobo wheel clockwise rotation Stop Rotation Continuous gobo wheel counter-clockwise rotation Gobo1 shaking slow to fast Gobo2 shaking slow to fast Gobo3 shaking slow to fast Gobo4 shaking slow to fast Gobo5 shaking slow to fast Gobo6 shaking slow to fast Gobo7 shaking slow to fast</p>
<p style="text-align: center;"><b>14</b></p>	<p>000-021 022-042 043-063</p>	<p style="text-align: center;"><b>GOBO Rotation</b></p> <p>Gobo indexing: 0° to 90° range Gobo indexing: 90° to 180° range Gobo indexing: 180° to 270° range</p>

	064-084 085-105 106-127 128-190 191-192 193-255	Gobo indexing: 270° to 360° range Gobo indexing: 360° to 450° range Gobo indexing: 450° to 540° range Continuous gobo rotation from fast to slow Stop rotation Continuous gobo rotation from slow to fast
<b>15</b>	000-255	<b>Fine Gobo Rotation</b> Fine Gobo Indexing
<b>16</b>	000-003 004-007 008-011 012-015 016-018 019-022 023-026 027-030 031-034 035-037 038-041 042-045 046-049 050-053 054-056 057-060 061-064 065-068 069-071 072-113 114-117 118-159 160-165 166-170 171-175 176-181 182-186 187-191 192-197 198-202 203-207 208-214 215-218 219-223 224-229 230-234 235-239 240-245	<b>Static GOBO Change</b> Empty position Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo7 Gobo8 Gobo9 Gobo10 Gobo11 Gobo12 Gobo13 Gobo14 Gobo15 Gobo16 Gobo17 Gobo18 Clockwise rotation from fast to slow Stop rotation Counter-clockwise rotation from slow to fast Gobo1 shaking slow to fast Gobo2 shaking slow to fast Gobo3 shaking slow to fast Gobo4 shaking slow to fast Gobo5 shaking slow to fast Gobo6 shaking slow to fast Gobo7 shaking slow to fast Gobo8 shaking slow to fast Gobo9 shaking slow to fast Gobo10 shaking slow to fast Gobo11 shaking slow to fast Gobo12 shaking slow to fast Gobo13 shaking slow to fast Gobo14 shaking slow to fast Gobo15 shaking slow to fast Gobo16 shaking slow to fast

	246-250 251-255	Gobo17 shaking slow to fast Gobo18 shaking slow to fast
<b>17</b>	000-010 011-132 133-223 224-255	<b>Prism Insertion</b> Prism out Prism 1 into the light beam Prism 2 into the light beam Prism 1/ 2 into the light beam
<b>18</b>	000-021 022-042 043-063 064-084 085-105 106-127 128-190 191-192 193-255	<b>Prisms 1 Rotation</b> Prism indexing: 0° to 90° range Prism indexing: 90° to 180° range Prism indexing: 180° to 270° range Prism indexing: 270° to 360° range Prism indexing: 360° to 450° range Prism indexing: 450° to 540° range Continuous prism rotation from fast to slow Stop rotation Continuous prism rotation from slow to fast
<b>19</b>	000-021 021-042 042-063 063-084 084-105 105-127 128-190 191-192 193-255	<b>Prisms 2 Rotation</b> Prism indexing: 0° to 90° range Prism indexing: 90° to 180° range Prism indexing: 180° to 270° range Prism indexing: 270° to 360° range Prism indexing: 360° to 450° range Prism indexing: 450° to 540° range Continuous prism rotation from fast to slow Stop rotation Continuous prism rotation from slow to fast
<b>20</b>	000-255	<b>Zoom</b> Zoom linearly moves from narrow to wide beam
<b>21</b>	000-255	<b>Focus</b> 0% ~ 100%
<b>22</b>	000-255	<b>Frost</b> 0% ~ 100%
<b>23</b>	000-063 064-127 128-255	<b>Animation Disk Insertion:</b> White Frost Linear Animation Disk Insertion
<b>24</b>	000-124 125-130 131-255	<b>Animation Disk Rotation</b> Clockwise rotation from fast to slow Stop rotation Counter-clockwise rotation from slow to fast
<b>25</b>	000-127 128-191 192-255	<b>Beam Mode</b> Zoom/Autofocus mode Beam Mode Wash Mode
<b>26</b>	000-003	<b>Strobe</b> Light OFF

	004-103 104-107 108-207 208-212 213-225 226-238 239-251 252-255	Strobe from slow to fast Light ON Pulsation from slow to fast Light ON Random Strobe at low frequency Random Strobe at medium frequency Random Strobe at high frequency Light ON
<b>27</b>	000-255	<b>Dimmer</b> 0% ~ 100%

**24 Channels (Mode 4):**

<b>CHANNEL</b>	<b>Value</b>	<b>FUNCTION</b>
<b>1</b>	000-255	<b>Cyan color wheel</b> Linear Cyan movement
<b>2</b>	000-255	<b>Magenta color wheel</b> Linear Magenta movement
<b>3</b>	000-255	<b>Yellow color wheel</b> Linear Yellow movement
<b>4</b>	000-027 028-049 050-079 080-099 100-128 129-149 150-180 181-203 204-234 235-254 255	<b>Color 1</b> Empty position Empty + Soft Filter Soft Filter Soft Filter + Lavender Lavender Lavender + CTO 3200K CTO 3200K CTO 3200K + CTO 2500K CTO 2500K CTO 2500K + Blue Wood(UV Filter) Blue Wood(UV Filter)
<b>5</b>	000-027 028-049 050-074 075-099 100-128 129-149 150-177 178-199 200-234 235-254 255	<b>Color 2</b> Empty position Empty + Dark Green Dark Green Dark Green + CTB CTB CTB + Dark Blue Dark Blue Dark Blue + H.M.Green H.M.Green H.M.Green + Dark Red Dark Red
<b>6</b>	000-027 028-049	<b>Color 3</b> Empty position Empty + Light Green

	050-076 077-099 100-128 129-149 150-180 181-199 200-230 231-254 255	Light Green Light Green + Pink Pink Pink + Aquamarine Aquamarine Aquamarine + Dark Orange Dark Orange Dark Orange + Light Orange Light Orange
<b>7</b>	000-003 004-103 104-107 108-207 208-212 213-225 226-238 239-251 252-255	<b>Strobe</b> Light OFF Strobe from slow to fast Light ON Pulsation from slow to fast Light ON Random Strobe at low frequency Random Strobe at medium frequency Random Strobe at high frequency Light ON
<b>8</b>	000-255	<b>Dimmer</b> 0% ~ 100%
<b>9</b>	000-255	<b>Dimmer Fine</b> Fine Dimmer positioning
<b>10</b>	000-003 004-007 008-011 012-015 016-018 019-022 023-026 027-030 031-034 035-037 038-041 042-045 046-049 050-053 054-056 057-060 061-064 065-068 069-071 072-113 114-117 118-159 160-165	<b>Static GOBO Change</b> Empty position Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo7 Gobo8 Gobo9 Gobo10 Gobo11 Gobo12 Gobo13 Gobo14 Gobo15 Gobo16 Gobo17 Gobo18 Clockwise rotation from fast to slow Stop rotation Counter-clockwise rotation from slow to fast Gobo1 shaking slow to fast

	166-170 171-175 176-181 182-186 187-191 192-197 198-202 203-207 208-214 215-218 219-223 224-229 230-234 235-239 240-245 246-250 251-255	Gobo2 shaking slow to fast Gobo3 shaking slow to fast Gobo4 shaking slow to fast) Gobo5 shaking slow to fast Gobo6 shaking slow to fast Gobo7 shaking slow to fast Gobo8 shaking slow to fast Gobo9 shaking slow to fast Gobo10 shaking slow to fast Gobo11 shaking slow to fast Gobo12 shaking slow to fast Gobo13 shaking slow to fast Gobo14 shaking slow to fast Gobo15 shaking slow to fast Gobo16 shaking slow to fast Gobo17 shaking slow to fast Gobo18 shaking slow to fast
<b>11</b>	000-016 017-032 033-048 049-064 065-081 082-097 098-113 114-129 130-147 148-165 166-183 184-201 202-219 220-237 238-255	<b>Rotating GOBO Select</b> Empty position Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo7 Gobo1 shaking slow to fast Gobo2 shaking slow to fast Gobo3 shaking slow to fast Gobo4 shaking slow to fast Gobo5 shaking slow to fast Gobo6 shaking slow to fast Gobo7 shaking slow to fast
<b>12</b>	000-021 022-042 043-063 064-084 085-105 106-127 128-190 191-192 193-255	<b>GOBO Rotation</b> Gobo indexing: 0° to 90° range Gobo indexing: 90° to 180° range Gobo indexing: 180° to 270° range Gobo indexing: 270° to 360° range Gobo indexing: 360° to 450° range Gobo indexing: 450° to 540° range Rotate from fast to slow Stop rotation Rotate from slow to fast
<b>13</b>	000-255	<b>Fine Gobo Rotation</b> Fine Gobo Indexing
<b>14</b>	000-010	<b>Prism Insertion</b> Prism out

	011-132 133-223 224-255	Prism 1 into the light beam Prism 2 into the light beam Prism 1/ 2 into the light beam
<b>15</b>	000-021 022-042 043-063 064-084 085-105 106-127 128-190 191-192 193-255	<b>Prisms Rotation</b> Prism indexing: 0° to 90° range Prism indexing: 90° to 180° range Prism indexing: 180° to 270° range Prism indexing: 270° to 360° range Prism indexing: 360° to 450° range Prism indexing: 450° to 540° range Rotate from fast to slow Stop rotation Rotate from slow to fast
<b>16</b>	000-255	<b>Frost</b> 0% ~ 100%
<b>17</b>	000-255	<b>Focus</b> 0% ~ 100%
<b>18</b>	000-255	<b>Pan</b> 0% ~ 100%
<b>19</b>	000-255	<b>Pan Fine</b> Fine Pan positioning
<b>20</b>	000-255	<b>Tilt</b> 0% ~ 100%
<b>21</b>	000-255	<b>Tilt Fine</b> Fine Tilt positioning
<b>22</b>	000-011 012-024 025-037 038-255	<b>Function</b> Unused range Fast Pan/Tilt Speed (default) Normal Pan/Tilt Speed Unused range
<b>23</b>	000-025 026-076 077-127 128-255	<b>Reset</b> Unused range Zoom Reset Pan/Tilt Reset Complete Reset
<b>24</b>	000-025 026-100 101-255	<b>Lamp Control</b> Unused range Lamp OFF Lamp ON



## **7. Error Information**

### **1. CPU-B/C/D/E Error**

Check whether the 485 (DATA) leads on the PCB board are install in place or disconnected.

Check whether the 485 (DATA) lead is disconnected.

Check whether the relevant signal circuit 485 (DATA) on the PCB board is damaged.

### **2. Pan Reset Error**

Check if the position of the pan mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the pan operating range.

Check if the pan Hall elements is damaged.

Check if the pan Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the pan motor is damaged.

Check if there is any damage to the circuit of the pan motor drive board.

### **3. Pan Encoder Error**

Check if the pan encoder is damaged.

Check if the pan encoder is in poor contact with the lead of the PCB board or disconnected.

### **4. Tilt Reset Error**

Check if the position of the tilt mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the tilt operating range.

Check if the tilt Hall elements is damaged.

Check if the tilt Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the tilt motor is damaged.

Check if there is any damage to the circuit of the tilt motor drive board.

### **5. Tilt Encoder Error**

Check if the tilt encoder is damaged.

Check if the tilt encoder is in poor contact with the lead of the PCB board or disconnected.

### **6. Head Fan1/2 Start Error**

Check if head fan1/2 is not running

### **7. Head Fan1/2 Stop Error**

Check if the head fan1/2 is still running when the lamp turns off for one minute.

### **8. LED Fan1/2/3/4/5 Start Error**

Check if LED fan1/2/3/4/5 is not running

### **9. LED Fan1/2/3/4/5 Stop Error**

Check if the LED fan1/2/3/4/5 is still running when the lamp turns off for one minute.

### **10. Base Fan1/2/3 Start Error**

Check if base fan1/2/3 is not running

### **11. Base Fan1/2/3 Stop Error**

Check if the base fan1/2/3 is still running when the lamp turns off for one minute.

### **12. Rotating Gobo Error**

Check if the position of the rotating gobo wheel mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the rotating gobo wheel operating range.

Check if the rotating gobo wheel Hall elements is damaged.

Check if the rotating gobo wheel Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the rotating gobo wheel motor is damaged.

Check if there is any damage to the circuit of the rotating gobo wheel motor drive board.

### **13. R-Gobo Error**

Check if the position of the rotating gobo wheel mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the rotating gobo wheel operating range.

Check if the rotating gobo wheel Hall elements is damaged.

Check if the rotating gobo wheel Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the rotating gobo wheel motor is damaged.

Check if there is any damage to the circuit of the rotating gobo wheel motor drive board.

### **14. Static Gobo Error**

Check if the position of the static gobo wheel mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the static gobo wheel operating range.

Check if the static gobo wheel Hall elements is damaged.

Check if the static gobo wheel Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the static gobo wheel motor is damaged.

Check if there is any damage to the circuit of the static gobo wheel motor drive board.

### **15. Animation Error**

Check if the position of the animation mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the animation operating range.

Check if the animation Hall elements is damaged.

Check if the animation Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the animation motor is damaged.

Check if there is any damage to the circuit of the animation motor drive board.

### **16. Color1/2/3 Error**

Check if the position of the color wheel1/2/3 mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the color wheel1/2/3 operating range.

Check if the color wheel1/2/3 Hall elements is damaged.

Check if the color wheel1/2/3 Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the color wheel1/2/3 motor is damaged.

Check if there is any damage to the circuit of the color wheel1/2/3 motor drive board.

### **17. Frost Error**

Check if the position of the frost mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the frost operating range.

Check if the frost Hall elements is damaged.

Check if the frost Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the frost motor is damaged.

Check if there is any damage to the circuit of the frost motor drive board.

### **18. Zoom Error**

Check if the position of the zoom mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the zoom operating range.

Check if the zoom Hall elements is damaged.

Check if the zoom Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the zoom motor is damaged.

Check if there is any damage to the circuit of the zoom motor drive board.

### **19. Prism1/2 Error**

Check if the position of the prism1/2 mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the prism1/2 operating range.

Check if the prism1/2 Hall elements is damaged.

Check if the prism1/2 Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the prism1/2 motor is damaged.

Check if there is any damage to the circuit of the prism1/2 motor drive board.

### **20. R-Prism1/2 Error**

Check if the position of the prism1/2 mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the prism1/2 operating range.

Check if the prism1/2 Hall elements is damaged.

Check if the prism1/2 Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the prism1/2 motor is damaged.

Check if there is any damage to the circuit of the prism1/2 motor drive board.

### **21. Focus Error**

Check if the position of the focus mounting magnetic steel falls off or is damaged.

Check if there are other interference items in the focus operating range.

Check if the focus Hall elements is damaged.

Check if the focus Hall elements is in poor contact with the lead of the PCB board or disconnected.

Check if the focus motor is damaged.

Check if there is any damage to the circuit of the focus motor drive board.

### **22. Lamp Too Hot Off**

Check if the temperature switch of the lamp is off.

Check if the fans are still running properly.

### **23. Lamp Maintenance**

Check lamp use time and replace the lamp in time.

### **24. Gravity Sensor Error**

Check if the gravity sensor on board E is damaged.

## **8. Troubleshooting**

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

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

1. Check the connect power and main fuse.
2. Measure the mains voltage on the main connector.
3. Check the power on LED to see if it can be light up or not.

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

1. DMX LED should be on. If not, check DMX connectors, cables to see if they are linked properly.
2. If the DMX LED is on and no response to the channel, check the address settings and DMX polarity.
3. If you have intermittent DMX signal problems, check the pins on connectors or on PCB of the unit or the previous one.
4. Try to use another DMX controller.
5. Check to see if the DMX cables run near or run alongside to high voltage cables that may cause damage or interference to DMX interface circuit.

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

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

### **D. The lamp is cutting out intermittently**

1. The lamp is not working well. Check the mains voltage either too high or too low.
2. Internal temperature may be too high. Check if replacement of fan is needed on the head.

## **9. Fixture Cleaning**

The cleaning of internal and external optical lenses and/or mirrors must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates: damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the unit's optics.

- Clean with soft cloth and use normal glass to clean liquid.
- Always dry the parts carefully.
- Clean the external optics at least every 20 days. Clean the internal optics at least every 30/60 days.





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