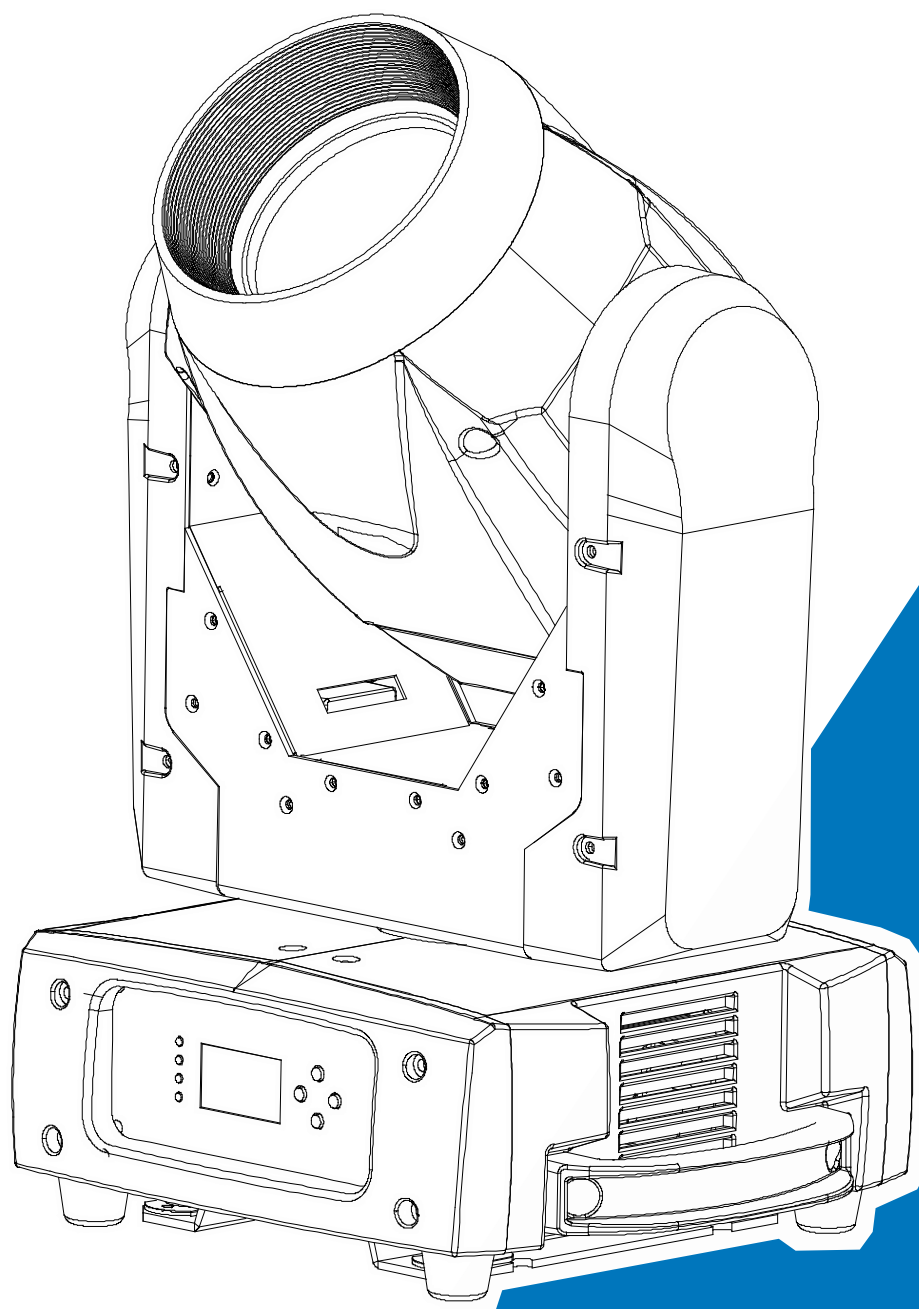


# Acme®

## RAYZOR 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 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.
- 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 2 meters.
- Disconnect mains power before fuse replacement or servicing.
- Replace fuse 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.
- 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. Technical Specifications

### Power Voltage:

100-240V~, 50/60Hz

### Power Consumption:

190W

### Light Source:

PU55-90FWL

### Angle:

Beam Angle: 2°/4°/6°/8°/10°

3°/6°/9°/12°/15°/19°(with zoom lens)

Spot Angle: Static Gobo: 10°→15°(with zoom lens)

Rotating Gobo: 10°→17°(with zoom lens)

Wash Angle: 15°→28°

### Movement:

Pan: 540°

Tilt: 270°

Pan/Tilt Resolution: 16 bit

### Dimmer/Shutter:

Smooth dimming from 0-100%; outstanding strobe effect with variable speed

### Color Wheel:

1 x color wheel with 8 fixed colors plus white with rainbow effect

### Gobo Wheel:

1 x static gobo wheel with 7 gobos plus open

1 x rotating gobo wheel with 6 gobos plus open

### Control:

DMX Channel: 17/20 Channels

Protocols: DMX, RDM, Primary/Secondary, Sound Active

Firmware Upgrade via DMX link

**Construction:**

Display: LCD display

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

Power in/out: Power Connector in/out

Protection Rating: IP20

**Features:**

Motorized focus

1 x prism: 3-facets prism, rotating in both directions

Outstanding color macro effect

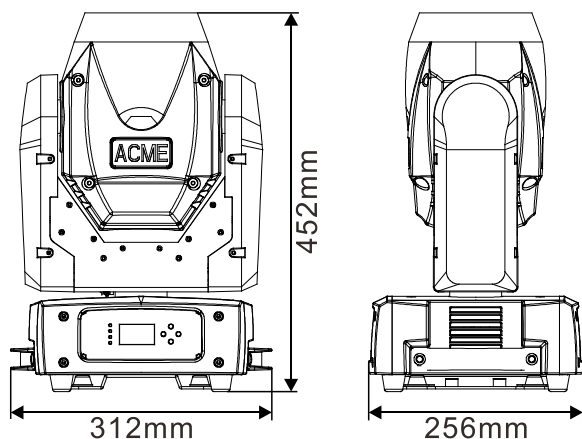
Independent frost effect

Integrated three features: beam, spot, and wash

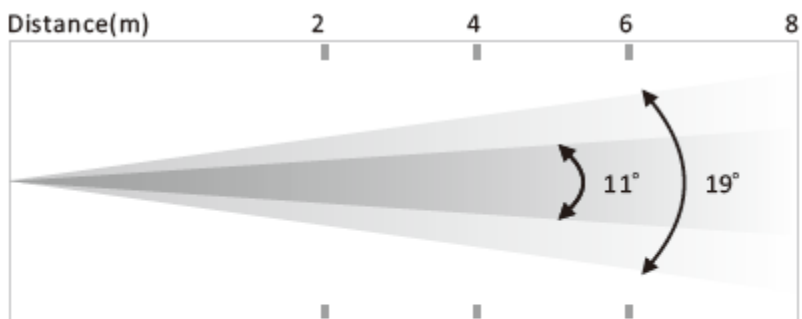
**Dimensions/Weight:**

312x256x452mm, 13.2kgs

12.3"x10.1"x17.8" in, 29.1lbs

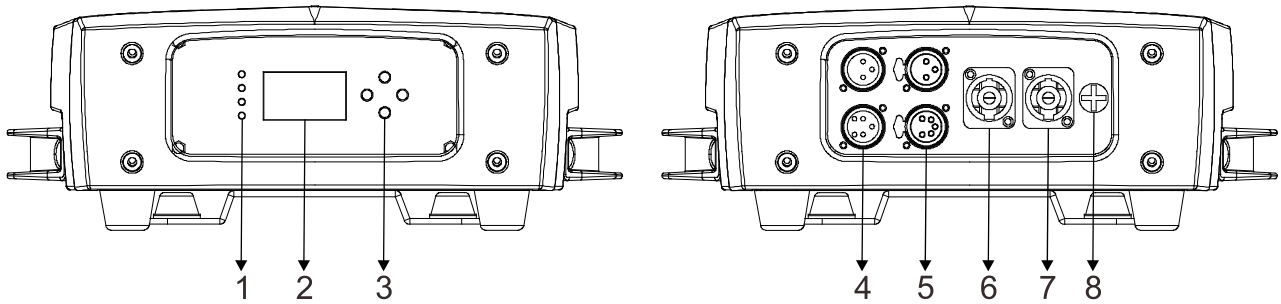


**Photometric Diagram:**



	2	4	6	8
11° Lux	35300	8940	3690	2050
Diameter(m)	0.38	0.75	1.15	1.55
19° Lux	10300	3060	1150	805
Diameter(m)	0.66	1.3	2	2.6

### 3. Control Panel



#### 1. LED:

<b>DMX</b>	On	DMX input present
<b>PRIMARY</b>	On	Primary mode
<b>SECONDARY</b>	On	Secondary mode
<b>SOUND</b>	On	Sound activation

**2. DISPLAY:** To show the various menus and the selected function

#### 3. 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

#### 4. DMX IN:

For DMX512 link, use 3/5-pin XLR cable to link the unit and DMX controller

#### 5. DMX OUT:

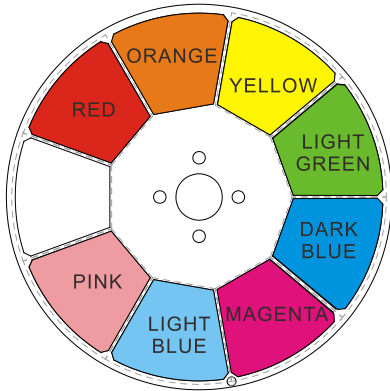
For DMX512 link, use 3/5-pin XLR cable to link the next units

**6. MAINS IN:** Used to connect to supply power

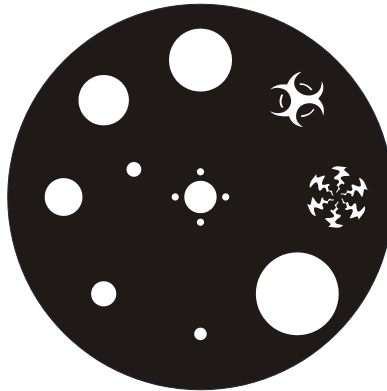
**7. MAINS OUT:** Used to connect to the next unit

**8. FUSE(T 5A):** Protect the unit from damage of over current

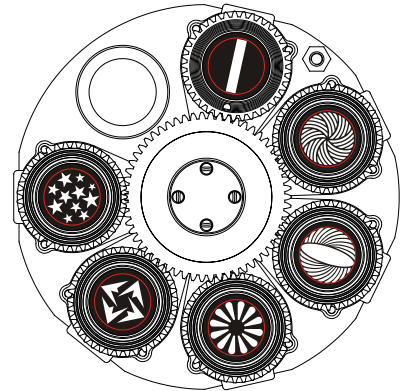
## 4. Color Wheel/Gobo Wheels



COLOR WHEEL



STATIC GOBO WHEEL



ROTATING GOBO WHEEL

### **DANGER!**

***Install the color wheel/gobo wheels with the device switched off only.  
Unplug from mains before changing color wheel/gobo wheels!***

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

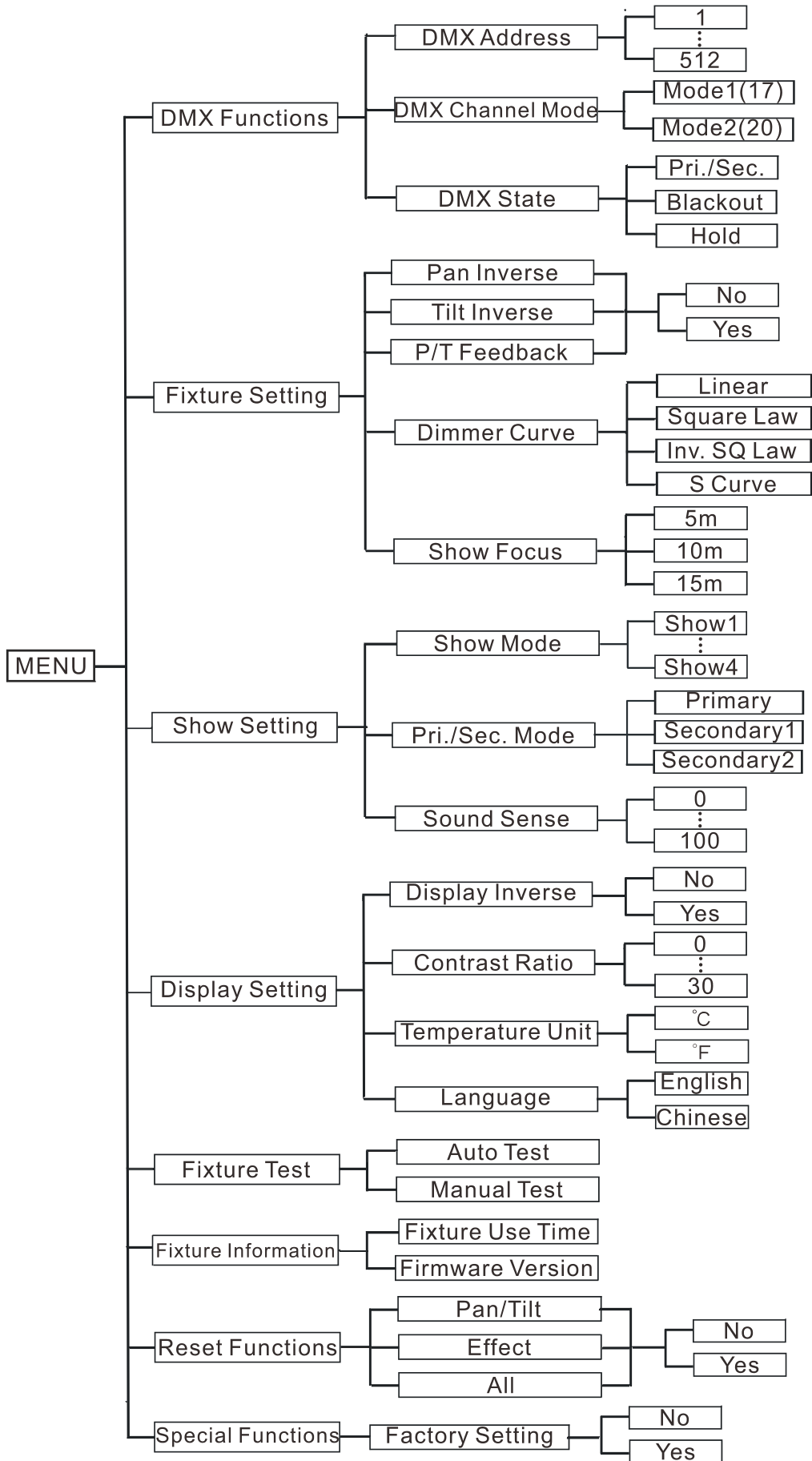
## 5. How To Set The Unit

### 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 30 seconds to exit menu mode.

The main functions are shown below:





## ***DMX Functions***

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

### **DMX Address**

To select **DMX Address**, press the **ENTER** button to confirm. 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.

### **DMX Channel Mode**

To select **DMX Channel Mode**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Mode1(17)** or **Mode2(20)** channels mode, 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.

### **DMX State**

To select **DMX State**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Pri./Sec.**(primary/secondary mode), **Blackout**(fixture blacks out if DMX signal stops) or **Hold**(fixture continues to obey the last command it received Via DMX if DMX signal stops), 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.

## ***Fixture Setting***

To select **Fixture Setting**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Pan Inverse, Tile Inverse, P/T Feedback, Dimmer Curve** or **Show Focus**.

### **Pan Inverse**

To select **Pan Inverse**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **No** (normal) or **Yes** (pan inverse), 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.

### **Tilt Inverse**

To select **Tilt Inverse**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **No** (normal) or **Yes** (tilt inverse), 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.

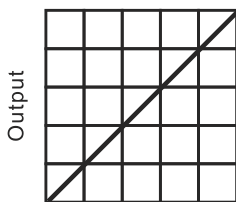
## P/T Feedback

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 30 seconds to exit menu mode.

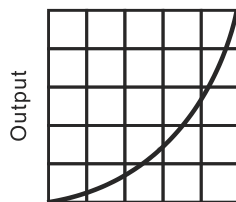
## Dimmer Curve

To select **Dimmer Curve**, press the **ENTER** button to confirm. Use the **DOWN/UP** button to select **Linear**, **Square Law**, **Inv. SQ Law** or **S Curve**, 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.

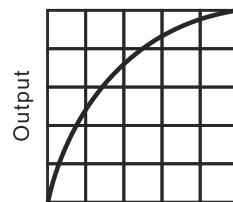
## Dimmer Modes



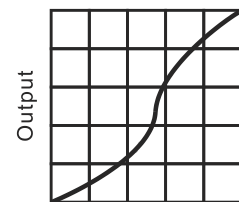
Optically Linear



Square Law



Inverse Square Law



S-curve

**Optically Linear:** The increase in light intensity appears to be linear as DMX value is increased.

**Square Law:** Light intensity control is finer at low levels and coarser at high levels.

**Inverse Square Law:** Light intensity control is coarser at low levels and finer at high levels.

**S-Curve:** Light intensity control is finer at low levels and high levels and coarser at medium levels.

## Show Focus

To select **Show Focus**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **5m**, **10m** or **15m**, 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.

## Show Setting

To select **Show Setting**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Show Mode**, **Pri./Sec. Mode** or **Sound Sense**.

## Show Mode

To select **Show Mode**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Show 1**, **Show 2**, **Show 3** or **Show 4**, 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.

### **Pri./Sec. Mode**

To select **Pri./Sec. Mode**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Primary, Secondary 1** or **Secondary 2**, 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.

### **Sound Sense**

To select **Sound Sense**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to adjust the value from **0** to **100**, 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.

## ***Display Setting***

To select **Display Setting**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Display Inverse, Contrast Ratio, Temperature Unit** or **Language**.

### **Display Inverse**

Select **Display Inverse**, 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** (inverse display), 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.

### **Contrast Ratio**

Select **Contrast Ratio**, press the **ENTER** button to confirm, present mode will blink on the display, use the **UP/DOWN** button to adjust the value from **0** to **30**, 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.

### **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 30 seconds to exit menu mode.

### **Language**

Select **Language**, press the **ENTER** button to confirm, present mode will blink on the display, use the **UP/DOWN** button to select **English** or **Chinese**, 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.

## ***Fixture Test***

To 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, gobo, gobo rotation, prism, prism rotation, 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/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 30 seconds.

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

## ***Fixture Information***

To select **Fixture Information**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Fixture Use Time** or **Firmware Version**.

### **Fixture Use Time**

Select **Fixture Use Time**, press the **ENTER** button to confirm, fixture use time 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***

To select **Reset Functions**, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Pan/Tilt**, **Effect** or **All**.

### **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 to exit.

### **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 to exit.

### **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 Setting**

Select **Factory Setting**, 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 (17/20 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.

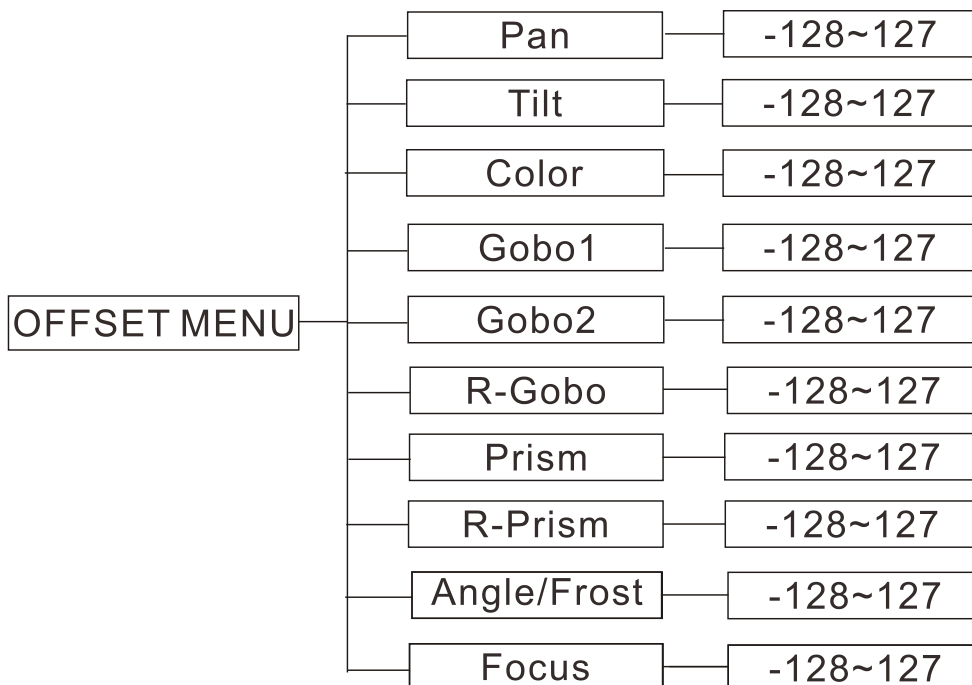
Select the PAN INVERT menu and the fixture will run the pan invert mode.

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

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

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.

## **Color**

Enter offset mode, Select **Color**, 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.

## **Gobo 1**

Enter offset mode, Select **Gobo 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.

## **Gobo 2**

Enter offset mode, Select **Gobo 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-Gobo**

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.

## **Prism**

Enter offset mode, Select **Prism**, 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**

Enter offset mode, Select **R-Prism**, 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.

## **Angle/Frost**

Enter offset mode, Select **Angle/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.

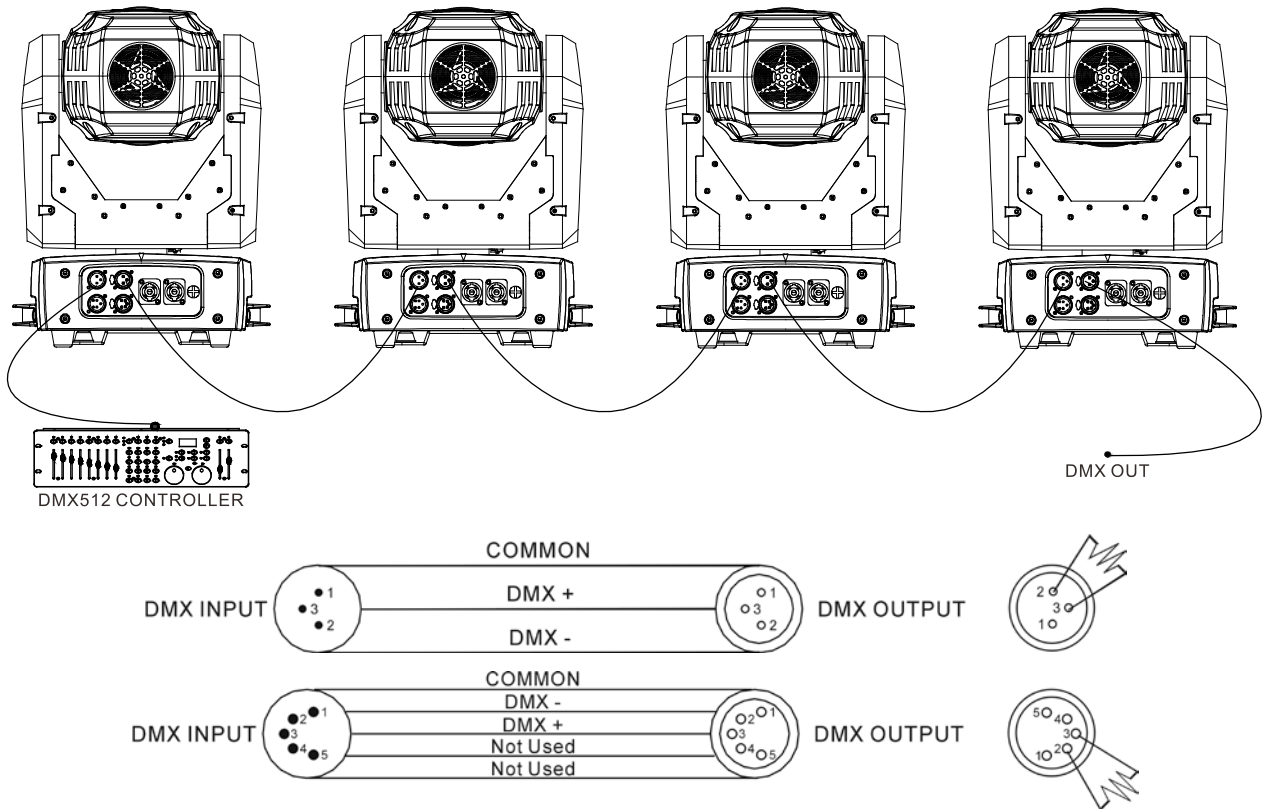
## **Focus**

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.



## 6. Control By Universal DMX Controller

### 6.1 DMX512 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 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.

## 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 Functions, 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 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 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
17 channels	1	18	35	52
20 channels	1	21	41	61

## 6.3 DMX512 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 3 seconds, then the corresponding function will take into effect.

### 17 Channels (Mode 1):

CHANNEL	VALUE	FUNCTION
1	000-255	PAN 0°→540°
2	000-255	TILT 0°→270°
3	000-255	PAN/TILT SPEED Fast to Slow
4	000-015 016-063 064-127 128-191	SHOW MODE Null Show 1 Show 2 Show 3

	192-255	Show 4
5	000-007 008-015 016-023 024-031 032-039 040-047 048-055 056-063 064-071 072-079 080-087 088-095 096-103 104-111 112-119 120-127 128-135 136-143 144-151 152-159 160-167 168-175 176-183 184-191 192-199 200-207 208-215 216-223 224-231 232-239 240-247 248-255	<b>PAN/TILT MACRO</b> Null Macro 1 Macro 2 Macro 3 Macro 4 Macro 5 Macro 6 Macro 7 Macro 8 Macro 9 Macro 10 Macro 11 Macro 12 Macro 13 Macro 14 Macro 15 Macro 16 Macro 17 Macro 18 Macro 19 Macro 20 Macro 21 Macro 22 Macro 23 Macro 24 Macro 25 Macro 26 Macro 27 Macro 28 Macro 29 Macro 30 Macro 31
6	000-255	<b>PAN/TILT MACRO SPEED</b> Fast to Slow
7	000-015 016-018 019-021 022-024 025-027 028-030 031-033 034-036 037-039	<b>COLOR</b> Open White+Color1 Color1 Color1+Color2 Color2 Color2+Color3 Color3 Color3+Color4 Color4

	040-042 043-045 046-048 049-051 052-054 055-057 058-060 061-063 064-127 128-189 190-193 194-255	Color4+Color5 Color5 Color5+Color6 Color6 Color6+Color7 Color7 Color7+Color8 Color8 Color Wheel Indexing Counter-Clockwise Rotation, Fast to Slow Stop Clockwise Rotation, Slow to Fast
8	000-007 008-016 017-025 026-034 035-043 044-052 053-061 062-067 068-076 077-085 086-094 095-103 104-112 113-121 122-127 128-189 190-193 194-255	<b>GOBO WHEEL 1</b> Open Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo7 Gobo1 Shaking Gobo2 Shaking Gobo3 Shaking Gobo4 Shaking Gobo5 Shaking Gobo6 Shaking Gobo7 Shaking Clockwise Rotation, Fast to Slow Stop Counter-Clockwise Rotation, Slow to Fast
9	000-007 008-016 017-025 026-034 035-043 044-052 053-061 062-072 073-083 084-094 095-105 106-116 117-127 128-189 190-193	<b>GOBO WHEEL 2</b> Open Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo1 Shaking Gobo2 Shaking Gobo3 Shaking Gobo4 Shaking Gobo5 Shaking Gobo6 Shaking Counter-Clockwise Rotation, Fast to Slow Stop

	194-255	Clockwise Rotation, Slow to Fast
<b>10</b>	000-127 128-189 190-193 194-255	<b>R-GOBO 2</b> Index Clockwise Rotation, Fast to Slow Stop Counter-Clockwise Rotation, Slow to Fast
<b>11</b>	000-007 008-128 129-255	<b>ANGLE/FROST</b> Off Angle Frost
<b>12</b>	000-007 008-255	<b>PRISM</b> No Effect Prism Effect
<b>13</b>	000-127 128-191 192-255	<b>R-PRISM</b> Index Counter-Clockwise Rotation, Fast to Slow Clockwise Rotation, Slow to Fast
<b>14</b>	000-255	<b>FOCUS</b> 0%→100%
<b>15</b>	000-007 008-015 016-131 132-139 140-181 182-189 190-231 232-239 240-247 248-255	<b>STROBE</b> Close Open Strobe from Slow to Fast Open Fast Close Slow Open Open Fast Open Slow Close Open Random Strobe Open
<b>16</b>	000-255	<b>DIMMER</b> 0%→100%
<b>17</b>	000-069 070-079 080-089 090-099 100-109 110-119 120-129 130-139 140-149 150-159 160-199 200-209	<b>FUNCTION</b> No Function Enable Blackout while Pan/Tilt Moving Disable Blackout while Pan/Tilt Moving Enable Blackout while Color Changing Disable Blackout while Color Changing Enable Blackout while Gobo Changing Disable Blackout while Gobo Changing No Function Pan/Tilt Reset Effect Reset No Function All Reset

	210-219	Enable Blackout while Pan/Tilt Color Gobo Moving
	220-229	Disable Blackout while Pan/Tilt Color Gobo Moving
	230-255	No Function

**20 Channels (Mode 2):**

CHANNEL	VALUE	FUNCTION
1	000-255	<b>PAN</b> 0°→540°
2	000-255	<b>PAN FINE</b>
3	000-255	<b>TILT</b> 0°→270°
4	000-255	<b>TILT FINE</b>
5	000-255	<b>PAN/TILT SPEED</b> Fast to Slow
6	000-015 016-063 064-127 128-191 192-255	<b>SHOW MODE</b> Null Show 1 Show 2 Show 3 Show 4
7	000-007 008-015 016-023 024-031 032-039 040-047 048-055 056-063 064-071 072-079 080-087 088-095 096-103 104-111 112-119 120-127 128-135 136-143 144-151 152-159 160-167	<b>PAN/TILT MACRO</b> Null Macro 1 Macro 2 Macro 3 Macro 4 Macro 5 Macro 6 Macro 7 Macro 8 Macro 9 Macro 10 Macro 11 Macro 12 Macro 13 Macro 14 Macro 15 Macro 16 Macro 17 Macro 18 Macro 19 Macro 20

	168-175 176-183 184-191 192-199 200-207 208-215 216-223 224-231 232-239 240-247 248-255	Macro 21 Macro 22 Macro 23 Macro 24 Macro 25 Macro 26 Macro 27 Macro 28 Macro 29 Macro 30 Macro 31
<b>8</b>	000-255	<b>PAN/TILT MACRO SPEED</b> Fast to Slow
<b>9</b>	000-015 016-018 019-021 022-024 025-027 028-030 031-033 034-036 037-039 040-042 043-045 046-048 049-051 052-054 055-057 058-060 061-063 064-127 128-189 190-193 194-255	<b>COLOR</b> Open White+Color1 Color1 Color1+Color2 Color2 Color2+Color3 Color3 Color3+Color4 Color4 Color4+Color5 Color5 Color5+Color6 Color6 Color6+Color7 Color7 Color7+Color8 Color8 Color Wheel Indexing Counter-Clockwise Rotation, Fast to Slow Stop Clockwise Rotation, Slow to Fast
<b>10</b>	000-007 008-016 017-025 026-034 035-043 044-052 053-061 062-067 068-076 077-085	<b>GOBO WHEEL 1</b> Open Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo7 Gobo1 Shaking Gobo2 Shaking

	086-094 095-103 104-112 113-121 122-127 128-189 190-193 194-255	Gobo3 Shaking Gobo4 Shaking Gobo5 Shaking Gobo6 Shaking Gobo7 Shaking Clockwise Rotation, Fast to Slow Stop Counter-Clockwise Rotation, Slow to Fast
11	000-007 008-016 017-025 026-034 035-043 044-052 053-061 062-072 073-083 084-094 095-105 106-116 117-127 128-189 190-193 194-255	<b>GOBO WHEEL 2</b> Open Gobo1 Gobo2 Gobo3 Gobo4 Gobo5 Gobo6 Gobo1 Shaking Gobo2 Shaking Gobo3 Shaking Gobo4 Shaking Gobo5 Shaking Gobo6 Shaking Counter-Clockwise Rotation, Fast to Slow Stop Clockwise Rotation, Slow to Fast
12	000-127 128-189 190-193 194-255	<b>R-GOBO 2</b> Index Clockwise Rotation, Fast to Slow Stop Counter-Clockwise Rotation, Slow to Fast
13	000-007 008-128 129-255	<b>ANGLE/FROST</b> Off Angle Frost
14	000-007 008-255	<b>PRISM</b> No Effect Prism Effect
15	000-127 128-191 192-255	<b>R-PRISM</b> Index Counter-Clockwise Rotation, Fast to Slow Clockwise Rotation, Slow to Fast
16	000-255	<b>FOCUS</b> 0%→100%
17	000-007 008-015	<b>STROBE</b> Close Open



	016-131 132-139 140-181 182-189 190-231 232-239 240-247 248-255	Strobe from Slow to Fast Open Fast Close Slow Open Open Fast Open Slow Close Open Random Strobe Open
<b>18</b>	000-255	<b>DIMMER</b> 0%→100%
<b>19</b>	000-255	<b>DIMMER FINE</b>
<b>20</b>	000-069 070-079 080-089 090-099 100-109 110-119 120-129 130-139 140-149 150-159 160-199 200-209 210-219 220-229 230-255	<b>FUNCTION</b> No Function Enable Blackout while Pan/Tilt Moving Disable Blackout while Pan/Tilt Moving Enable Blackout while Color Changing Disable Blackout while Color Changing Enable Blackout while Gobo Changing Disable Blackout while Gobo Changing No Function Pan/Tilt Reset Effect Reset No Function All Reset Enable Blackout while Pan/Tilt Color Gobo Moving Disable Blackout while Pan/Tilt Color Gobo Moving No Function

## 7. 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.

## 8. 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 days.



**Innovation, Quality, Performance**