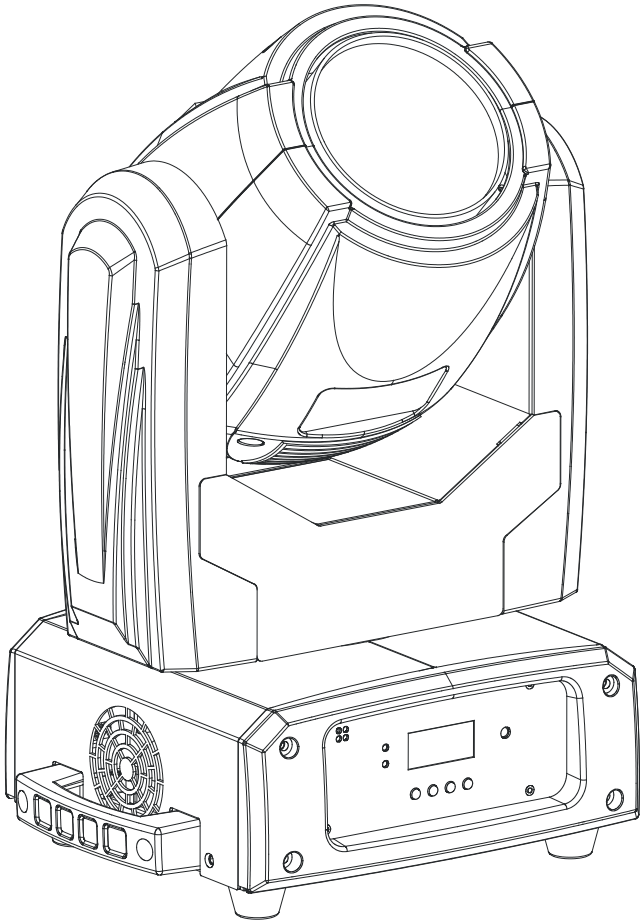
SABER Mini



# AE-610 BEAM

## User Manual

Please read the instruction carefully before use

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## 1. Safety Instruction

**WARNING**

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

Please keep this User Guide for future consultation. If you sell the unit to another user, be sure that they also receive this instruction manual.

***Important:***

***Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems***.

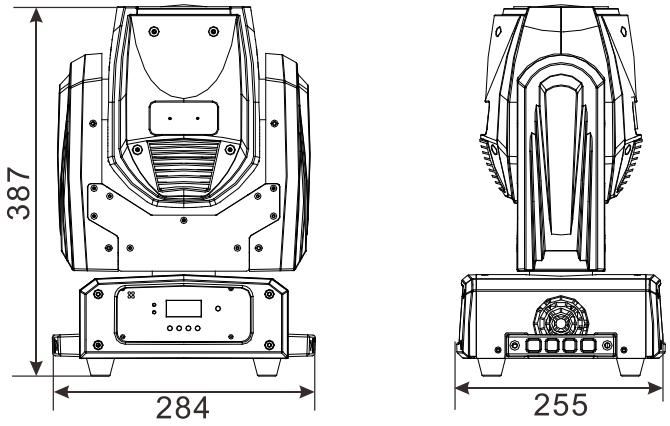
- Unpack and check carefully that there is no transportation damage before using the unit.
- The unit is for indoor use only. Use only in a dry location.
- Do install and operate by qualified operator.
- Do not allow children to operate the fixture.
- Use safety chain when fixing the unit. Handle the 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 matches the power requirements of the unit.
- It's important to ground the yellow/green conductor to earth in order to avoid electric shock.
- Maximum ambient temperature TA: 40℃. Don't operate it when the temperature is higher.
- Don't 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℃. Don't 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 the fixture regularly.
- Do not touch any wire during operation as there might be a hazard of electric shock.
- Avoid power wires twist other cables.
- The minimum distance between light output and the illuminated surface must be more than 12 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 once 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 Specification

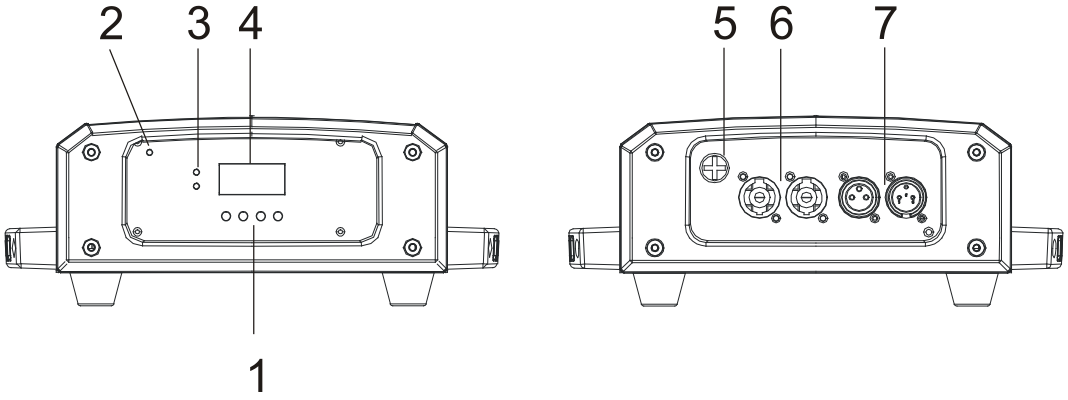
- DMX Channels: 12 channels
- Control mode: DMX, Master slave, Sound active
- LCD display easy to control
- One gobo wheel
- One color wheel
- Smooth 0~100% dimming and variable strobe speeds

- **Voltage:** AC 100~240V, 50/60Hz
- **Power Consumption:** 190W
- **LED:** OSRAM SIRIUS HRI 100W
- **Beam Angle:** 3°
- **Weight:** 9.2Kgs
- **Dimension:** 387 x 284 x 255mm



# 3. Description

## 3.1 Control Panel




1. **Button:**

| | |
|---|---|
| **MENU** | To select the programming functions |
| ▼ **DOWN** | To go forward in the selected functions |
| ▲ **UP** | To go backward in the selected functions |
| **ENTER** | To confirm the selected functions |

2. **Microphone:** To receive music for sound active;

3. **LED:**

| | | |
|---|---|---|
| **DMX** | On | DMX input present |
| **SOUND** | Flashing | Sound activation |

4. **Function Display:** Used to show the various menus and the selected function;

5. **Fuse(T5A):** Protects the unit from over-voltage or short circuit;

6. **Power In/out:** Used to connect to supply power.

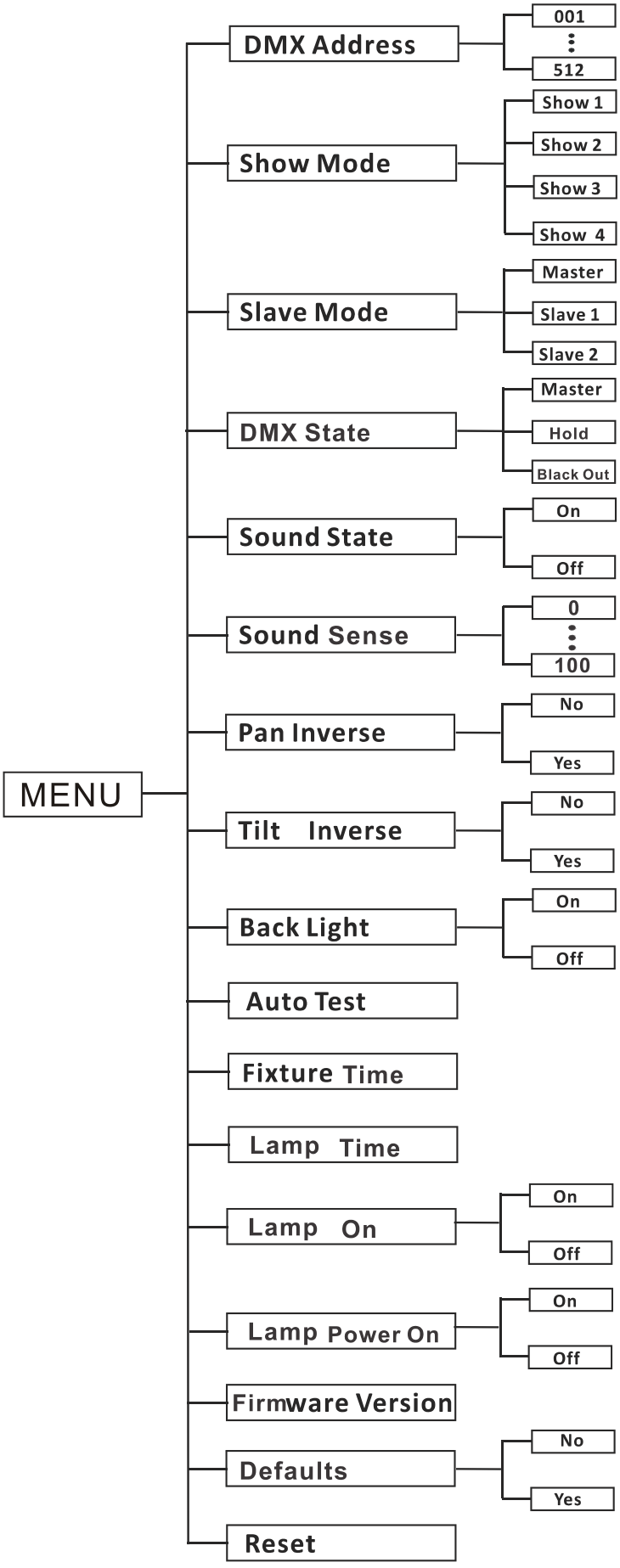
7. **DMX In/out:** Water proof cable with 3-pin XLR connectors for DMX 512 operation;

# 4. How To Set The Unit

## 4.1 Main Function

Turn on the unit, press the **MENU** button into menu mode, press the **UP** and **DOWN** button until the required function is shown on the monitor. Select the function by the **ENTER** button. Use the **UP** and **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. In the event of disconnecting with mains power, press the **UP** button for one minute to enter into menu mode. Press MENU button or let the unit idle one minute to exit.

The main functions are shown below:


MENU
DMX Address
001
512
Show Mode
Show 1
Show 2
Show 3
Show 4
Slave Mode
Master
Slave 1
Slave 2
DMX State
Master
Hold
Black Out
Sound State
On
Off
Sound Sense
0
100
Pan Inverse
No
Yes
Tilt Inverse
No
Yes
Back Light
On
Off
Auto Test
Fixture Time
Lamp Time
Lamp On
On
Off
Lamp Power On
On
Off
Firmware Version
Defaults
No
Yes
Reset

## DMX Address

To select **DMX Address**, press the **ENTER** button to show the **DMX ADDRESS** on the display. Use the **UP**/**DOWN** button to adjust the address from **001** to **512**. Once the address has been selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button for about one second or wait for one minute to exit the menu mode.

## Show Mode

To select **Show Mode**, press the **ENTER** button to show the **SHOW MODE** on the display. Use the **DOWN**/**UP** button to select the **Show 1** or **Show 2** or **Show 3** or **Show 4** Mode. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Slave Mode

To select **Slave Mode**, press the **ENTER** button to show the **SLAVE MODE** on the display. Use the **DOWN**/**UP** button to select the **Slave 1** (normal) or **Slave 2** (2 light show) mode. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## DMX State

To select **DMX State**, press the **ENTER** button to show the **DMX STATE** on the display. Use the **DOWN**/**UP** button to select the **Master** (fixture enters master mode), **Hold** (fixture continues to obey the last command it received via DMX ) or **Blackout** (blackout). Once selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Sound State

To select **Sound State**, press the **ENTER** button to show the **SOUND STATE** on the display. Use the **DOWN**/**UP** button to select the **On** (sound on) or **Off** (sound off) mode. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one

minute to exit the menu mode.

## Sound Sense

To select **Sound Sense**, press the **ENTER** button to show the **SOUND SENSE** on the display. Use the **DOWN/UP** button to adjust the value from **0** to **100**. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Pan Inverse

To select **Pan Inverse**, press the **ENTER** button to show the **PAN INVERSE** on the display. Use the **DOWN/UP** button to select the **Inverse** (pan inversion) or **Normal** (normal) mode. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Tilt Inverse

To select **Tilt Inverse**, press the **ENTER** button to show the **TILT INVERSE** on the display. Use the **DOWN/UP** button to select the **Inverse** (tilt inversion) or **Normal** (normal) mode. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Back Light

To select **Back Light**, press the **ENTER** button to show the **BACK LIGHT** on the display. Use the **DOWN/UP** button to select the **On** (LED display always on) or **Off** (LED display off when not use). Once selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Auto Test

To select **Auto Test**, press the **ENTER** button and the unit will run self-test by built-in program. To go back to the functions press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

## Fixture Time

To select **Fixture Time**, press the **ENTER** button and the display will show the number of working hours of the unit. To go back to the functions press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Lamp Time

To select **Lamp Time**, press the **ENTER** button and the display will show the number of working hours of the lamp. To go back to the functions press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Lamp On

To select **Lamp On**, press the **ENTER** button to show the **LAMP ON** on the display. Use the **DOWN/UP** button to select the **On** (Lamp on) or **Off** (Lamp off). Once selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Lamp Power On

To select **Lamp Power On**, press the **ENTER** button to show the **LAMP POWER ON** on the display. Use the **DOWN/UP** button to select the **On** (Lamp on when power on) or **Off** (Lamp off when power off). Once selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Firmware Version

To select **Firmware Version**, press the **ENTER** button and the display will show the version of software of the unit. To go back to the functions press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Defaults

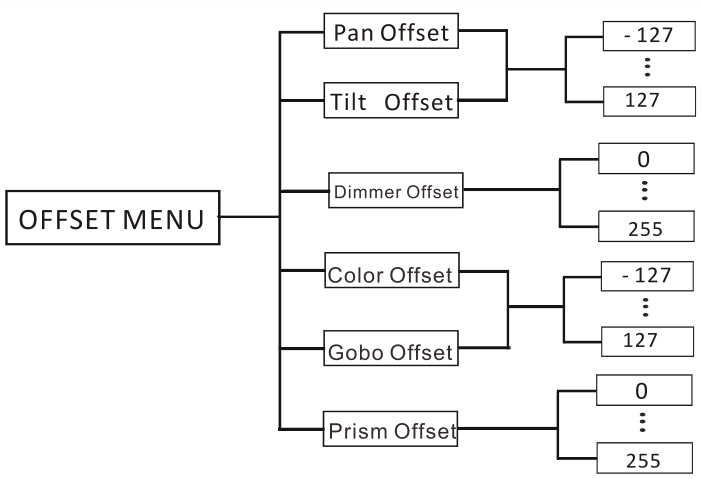
To select **Defaults**, press the **ENTER** button to show the **PRO DEFAULTS** on the display. Use the **DOWN/UP** button to select the **Yes** (run built-in program to set the fixture to PRO Defaults settings) or **No**. Once selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Press and hold the **MENU** button about one second or wait for one minute to exit the menu mode.

## Reset

To select **Reset**, press the **ENTER** button and all channels of the unit will return to their standard position.

### 4.2 Home Position Adjustment

Press the **MENU** button for at least 3 seconds then press the **ENTER** button for at least 5 seconds into offset mode to adjust the home position for the motors. Use **Up** and **Down** button to adjust the value, press the **ENTER** button to setup. Back to the functions without any change press **MENU** button.




**PAN OFFSET** —Pan home position adjustment

To select the **Pan Offset**, press the **ENTER** button to show the **PAN OFFSET** on the display. Use the **DOWN** and **UP** button to adjust the value from -127 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**TILT OFFSET** —Tilt home position adjustment

To select the **Tilt Offset**, press the **ENTER** button to show the **TILT OFFSET** on the display. Use the **DOWN** and **UP** button to adjust the value from -127 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**DIMMER OFFSET** —Dimmer home position adjustment

To select the **Dimmer Offset**, press the **ENTER** button to show the **DIMMER OFFSET** on the display. Use the **DOWN** and **UP** button to adjust the value from 0 to 255, press the **ENTER** button to store. Press the **MENU** button to exit.

**COLOR OFFSET** —Color home position adjustment

To select the **Color Offset**, press the **ENTER** button to show the **COLOR OFFSET** on the display. Use the **DOWN** and **UP** button to adjust the value from -127 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**GOBO OFFSET** —Gobo home position adjustment

To select the **Gobo 1 Offset**, press the **ENTER** button to show the **GOBO OFFSET** on the display. Use the **DOWN** and **UP** button to adjust the value from -127 to 127, press the **ENTER** button to store. Press the **MENU** button to exit.

**Prism OFFSET** —Prism home position adjustment

To select the **Prism Offset**, press the **ENTER** button to show the **PRISM OFFSET** on the display. Use the **DOWN** and **UP** button to adjust the value from 0 to 255, press the **ENTER** button to store. Press the **MENU** button to exit.

## 4.3 Error Information

**Lamp Startup Fail**

It appears when there is no lamp or some wires are damaged.

**Temperature Sense Error**

It appears when temperature check board is damaged.

**Lamp Too Hot Power Off**

It appears when temperature is detected higher than 110℃. Check if the unit is properly ventilated, or fans or temperature check board may is damaged.

**Lamp Too Hot Low Power**

It appears when temperature is detected higher than 105℃, the unit will run on a low power level.

**Maintenance Fixture**

It appears when the maintenance remaining time becomes 0S, please enter menu mode and reset the time.

**Lamp On Over 700 Hour**

It appears when the lamp has been on over 700 hours, please turn off the lamp.

**Memory Initial Fail**

It appears when the memory IC is damaged.

**CPU-B Error, CPU-C Error, CPU-D Error**

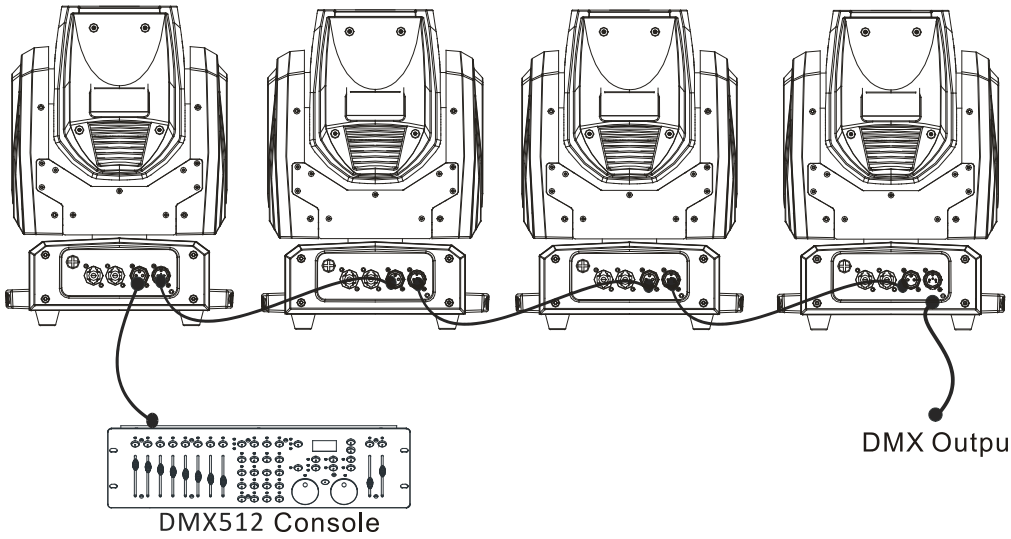
They appear when board P.C or some wires are damaged.

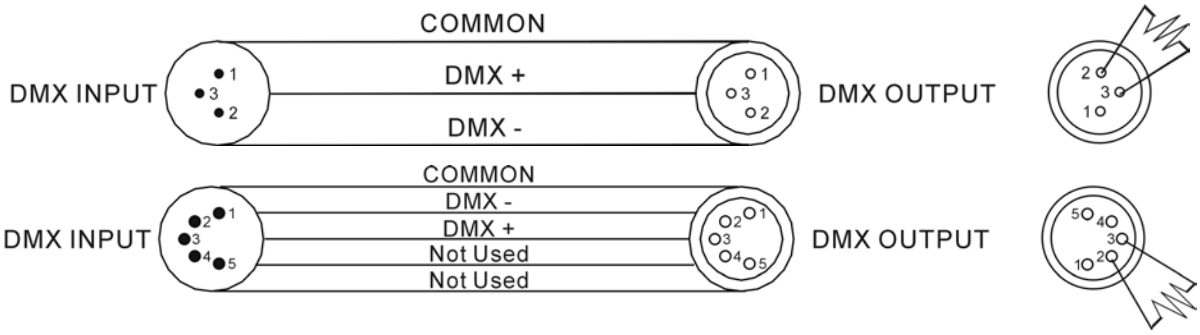
Pan Reset Error, Pan Encode Error, Tilt Reset Error, Tilt Encode Error, Shutter Reset Fail, Dimmer Reset Fail, Color Reset Fail, Gobo Reset Fail, Focus Reset fail.

**They may appear when turning on or resetting the unit, for some parts such as board P.C are damaged. Please contact the qualified maintenance.**

## 5. Control By Universal DMX Controller

### 5.1 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.

## 5.2 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 MENU button to enter menu mode, select ***DMX Functions***, press ENTER button to confirm, use UP and DOWN button to select ***DMX Address***, press ENTER button to confirm, the present address will blink on the display, use UP and DOWN button to adjust the address from 1 to 512, press ENTER button to store. Press MENU button back to the last menu or 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 |
|---|---|---|---|---|
| 12 channels | 1 | 13 | 25 | 37 |

## 5.3 DMX 512 Configuration

**12 Channels Mode:**

| CHANNEL | VALUE | FUNCTION |
|---|---|---|
| **1** | 000-255 | **PAN**<br>0° - 540° |
| **2** | 000-255 | **PAN FINE** |
| **3** | 000-255 | **TILT**<br>0° - 220° |

| | | |
|---|---|---|
| **4** | 000-255 | **TILT FINE** |
| **5** | | **PAN/TILT SPEED** |
| | 000-255 | fast → slow |
| **6** | | **DIMMER** |
| | 000-255 | 0%~100% |
| **7** | | **STROBE:** |
| | 000-007 | Standby |
| | 008-015 | Open |
| | 016-131 | Strobe: Slow → Fast |
| | 132-139 | Open |
| | 140-181 | Fast Close Slow Open |
| | 182-189 | Open |
| | 190-231 | Fast Open Slow Close |
| | 232-239 | Open |
| | 240-247 | Random Strobe |
| | 248-255 | Open |
| **8** | | **COLOR:** |
| | 000-008 | Open |
| | 009-016 | Color1 |
| | 017-025 | Color2 |
| | 026-033 | Color3 |
| | 034-042 | Color4 |
| | 043-050 | Color5 |
| | 051-059 | Color6 |
| | 060-067 | Color7 |
| | 068-076 | Color8 |
| | 077-084 | Color9 |
| | 085-093 | Color10 |
| | 094-101 | Color11 |
| | 102-110 | Color12 |
| | 111-118 | Color13 |
| | 119-127 | Color14 |
| | 128-189 | Rotation: Fast → Slow |
| | 190-193 | Stop |
| | 194-255 | Rotation: Slow →Fast |
| **9** | | **GOBO:** |
| | 000-003 | Open |
| | 004-007 | Gobo1 |
| | 008-011 | Gobo2 |
| | 012-015 | Gobo3 |
| | 016-019 | Gobo4 |
| | 020-023 | Gobo5 |
| | 024-027 | Gobo6 |
| | 028-031 | Gobo7 |
| | 032-035 | Gobo8 |
| | 036-039 | Gobo9 |

| | | |
|---|---|---|
| | 040-043 | Gobo10 |
| | 044-047 | Gobo11 |
| | 048-051 | Gobo12 |
| | 052-055 | Gobo13 |
| | 056-059 | Gobo14 |
| | 060-063 | Gobo15 |
| | 064-068 | Gobo1 Shaking |
| | 069-072 | Gobo2 Shaking |
| | 073-076 | Gobo3 Shaking |
| | 077-080 | Gobo4 Shaking |
| | 081-084 | Gobo5 Shaking |
| | 085-089 | Gobo6 Shaking |
| | 090-093 | Gobo7 Shaking |
| | 094-097 | Gobo8 Shaking |
| | 098-101 | Gobo9 Shaking |
| | 102-105 | Gobo10 Shaking |
| | 106-110 | Gobo11 Shaking |
| | 111-114 | Gobo12 Shaking |
| | 115-118 | Gobo13 Shaking |
| | 119-122 | Gobo14 Shaking |
| | 123-126 | Gobo15 Shaking |
| | 128-189 | Rotation: Fast → Slow |
| | 190-193 | Stop |
| | 194-255 | Rotation: Slow →Fast |
| **10** | | **PRISM:** |
| | 000-007 | No Effect |
| | 008-255 | Prism Effect |
| **11** | | **R-PRISM:** |
| | 000-127 | Index: 0→ 360 |
| | 128-189 | Rotation: Fast → Slow |
| | 190-193 | Stop |
| | 194-255 | Rotation: Slow →Fast |
| **12** | | **FUNCTION:** |
| | 000-079 | Null |
| | 080-084 | Pan/Tilt Motors reset |
| | 085-089 | Color motor reset |
| | 090-094 | Gobo motor reset |
| | 095-099 | Shutter/Dimmer/Prism reset |
| | 100-109 | Enable blackout while pan/tilt move |
| | 110-119 | Enable blackout while color change |
| | 120-129 | Enable blackout while gobo change |
| | 130-139 | Lamp On |
| | 140-199 | Null |
| | 200-209 | Reset All |
| | 210-229 | Null |
| | 230-239 | Lamp Off |
| | 240-249 | Null |

| | | |
|---|---|---|
| | 250-255 | Sound Function |

## 6. 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 high voltage cables that may cause damage or interference to DMX interface circuit.

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

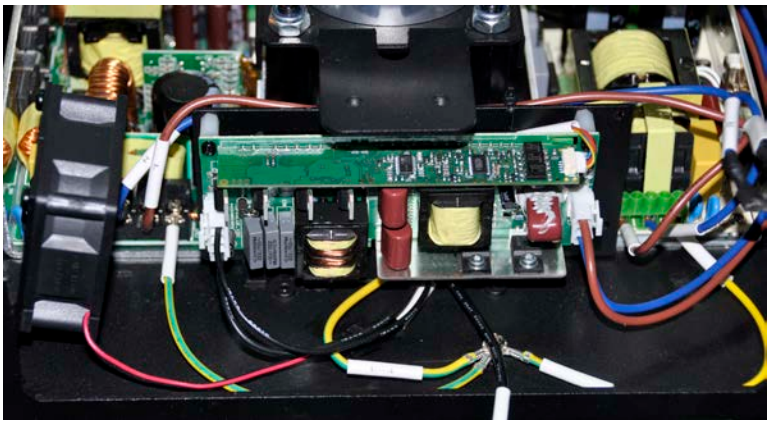
1. The stepper motor might be damaged or the cable connected to the PCB is broken.
2. The motor's drive IC on the PCB might be out of condition.

**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.

## 7. Maintenance and Cleaning

**Maintenance:**



**Ballast**

A. As the pictures shown above, please replace the cable or cable joints immediately once they've turned yellow.

B. Do maintain the fixtures every two months and make sure that all the screws and terminals have been locked firmly to make sure the normal performance of the fixtures. Negligence of maintenance would cause malfunction of the 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 fluid.
- Always dry the parts carefully.
- Clean the external optics at least every 20 days. Clean the internal optics at least every 30/60 days.

## Declaration of Conformity

We declare that our products (lighting equipments) comply with the following specification and bears CE mark in accordance with the provision of the Electromagnetic Compatibility (EMC) Directive 89/336/EEC.

EN55103-1: 2009+A1:2012; EN55103-2: 2009;
EN61000-3-2: 2014; EN61000-3-3: 2013.

**&**

## Harmonized Standard

EN 60598-1:2015; EN 60598-2-17:1989 + A2:1991;
EN 62471:2008; EN 62493: 2010
Safety of household and similar electrical appliances
Part 1: General requirements

# Innovation, Quality, Performance