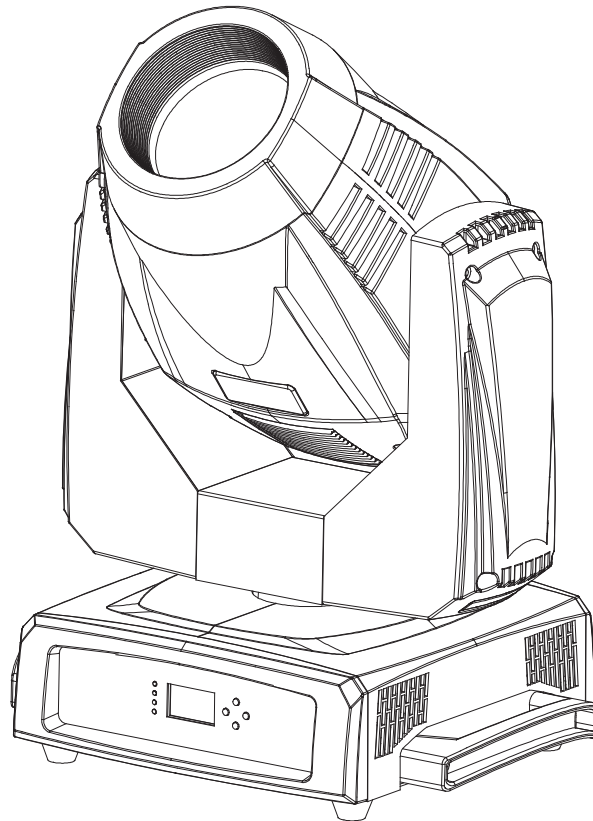# HOTBEAM-16R

User Manual

Please read the instruction carefully before use

Other languages are available for downloading on our website www.lotronic.net

CONTENTS

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.
- Maximum ambient temperature TA: 40℃. DO NOT operate it when the temperature is higher.
- 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℃. 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 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 again.

Cautions:

- 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 supply

- AC 100~240V 50/60Hz

Power Consumption

- 494W

Fuse

- T 10A

Light Source

- PHILIPS MSD Platinum 16R

Battery backup display

- Setting DMX address or other functions without connecting to mains power.

- Battery for LCD display charges automatically when the fixtures connects to the mains power.

- No need to change battery.

Optical system

- High efficiency optical system, delivering extremely powerful output

- High quality dichroic lenses

Movement

- Pan: 540°

- Tilt: 270°

- Pan/Tilt moving speed adjustable.

- Automatic Pan/Tilt correction.

- Easy calibration and maintenance by magnetic home positioning.

- Pan/Tilt position lock for transporting protection.

Dimmer/Shutter

- Blackout, 0~100% smooth dimming, independent shutter and various strobe effect.

Color wheel

- Color wheel: 14 fixed colors plus white

- Rainbow effect in both directions.

Gobo wheel

- Gobo Wheel : 1 Static gobo wheel with 17 gobos plus open

                1 Rotating gobo wheel with 12 gobos plus open

- Easy calibration and maintenance by magnetic home positioning.

- Module design for easy assembly and service.

Prism

- Prism 1: 8 facet prism rotating in both directions

- Prism 2: 6 linear prism rotating in both directions

Frost

- Variable, separate effect.

Focus

- Independent frost effect

Zoom

- Motorized linear zoom for smooth adjustment of beam size and beam sharpness.

Cool

- Fan cooled

Protocols

- DMX 512

- Date input/output: 3/5 Pin XLR socket

Weight

- 21.4Kg

Dimension

- 585× 344×393mm

Photometric Diagram:

Distance(m)	5	10	15	20
3° Lux	810000	200000	90000	52000
Diameter(m)	0.25	0.52	0.78	1
32° Lux	9700	2100	950	900
Diameter(m)	3.2	6.5	9.74	13
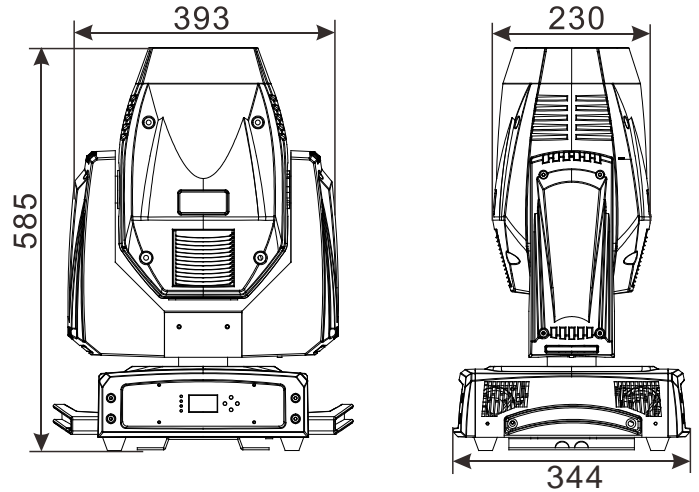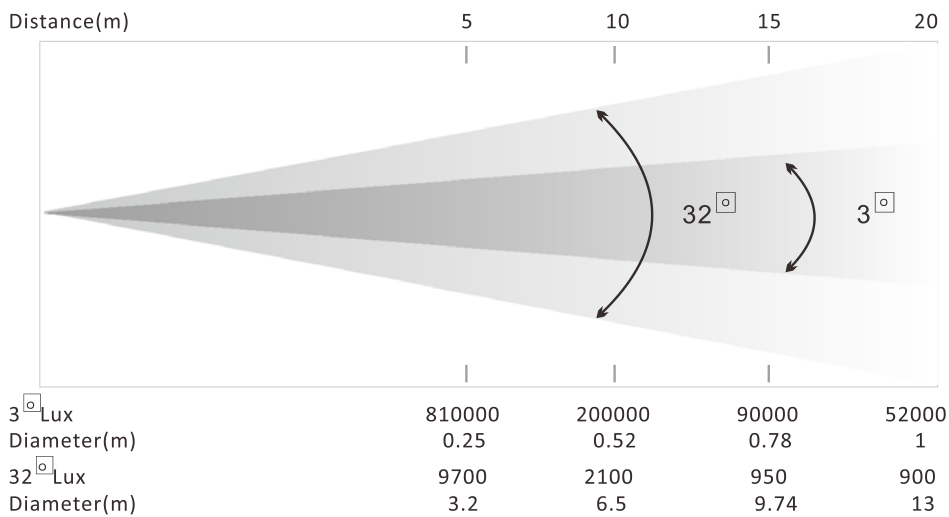
3. Description

3.1 Control Panel

Front view   **Rear view**
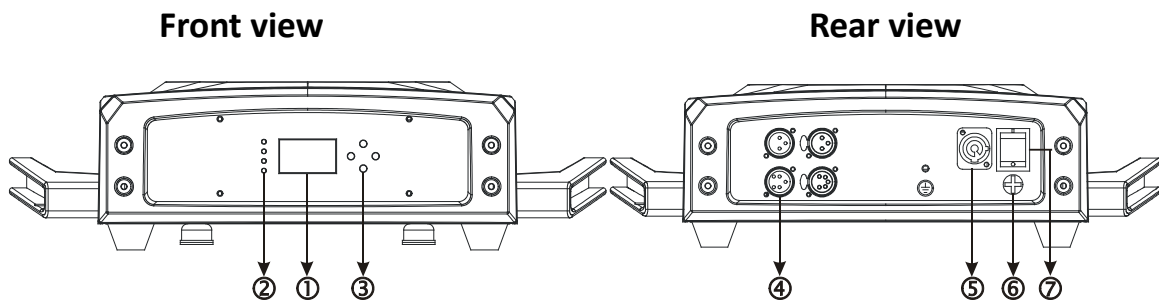
1. Monitor (Batter Back-up display):

2. LED:

POWER	On	Power on
DMX	On	DMX input present

3. Button:

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

4. DMX input/output:

For DMX 512 operation, use 3/5-pin XLR plug cable to link the units together

5. Power Cable:

To connect to the mains supply

6. Fuse (T 10A):

Protect the unit from damage of over current.

7. Power Switch: Turns On/Off the power.

4. Gobo and Lamp

4.1 Gobos

Static Gobo Wheel   Rotating Gobo Wheel

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

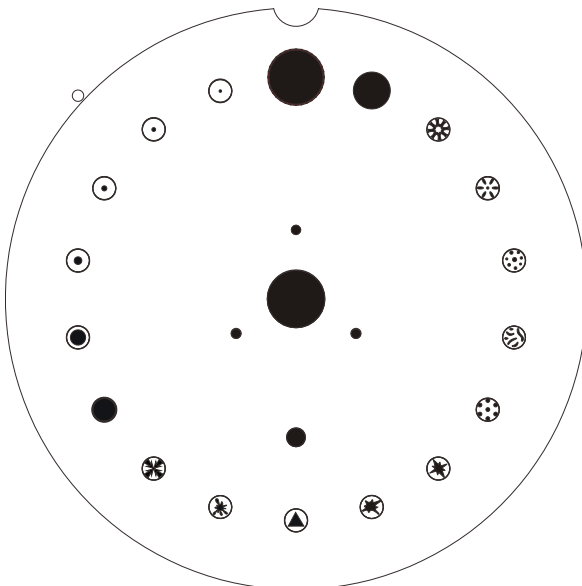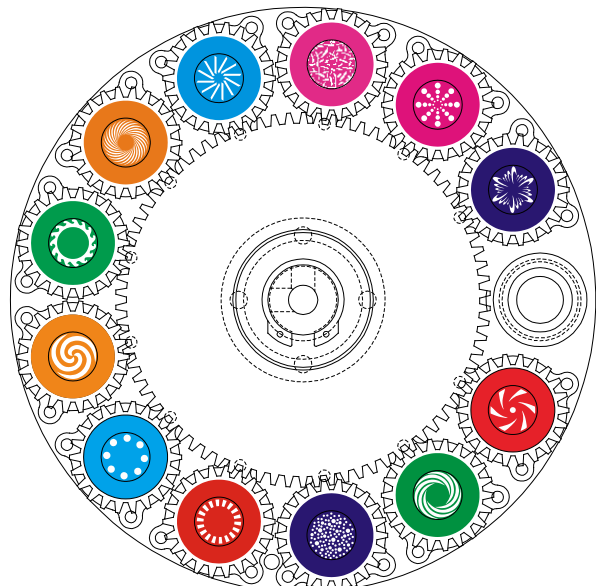*CAUTION: Never unscrew the screws of the rotating gobo as the ball bearing will otherwise be opened!*

4.2 Light Source

PHILIPS MSD Platinum 16R

- 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 luminary 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 1500 hours, 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 1500 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 works.

2. Loosen the two screws and open the fixture head covers.
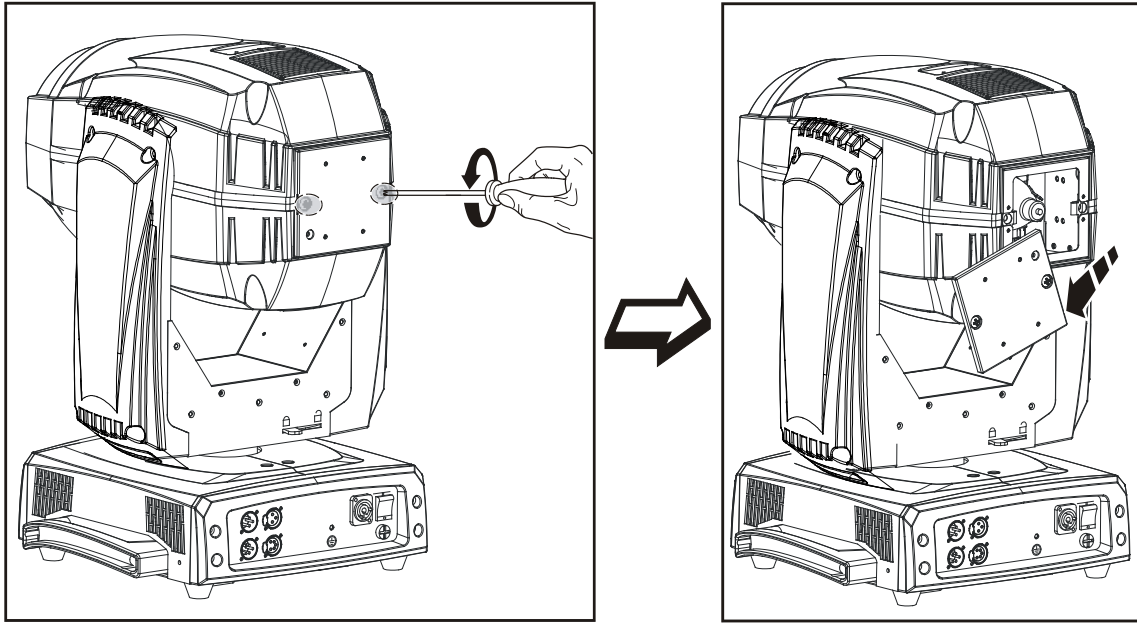
3. Lift the lamp out of its recess, disconnect the lamp and connect a new lamp that must be the same type with the old one. And then place the new lamp into the lamp recess.
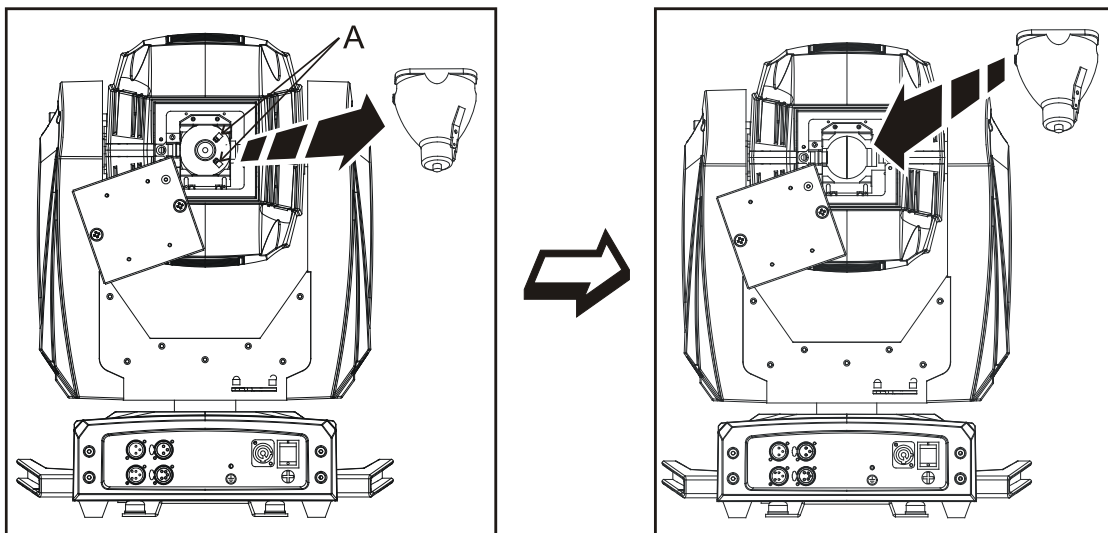
Finally reinstall the head cover, fastening it securely before reapplying power.

Warning:

The installing direction of lamp:
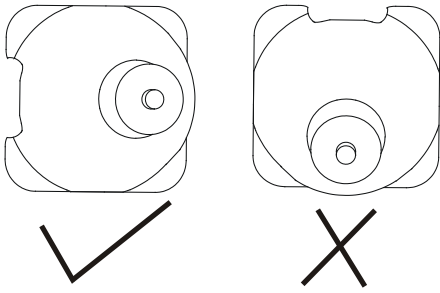
5. How To Set The Unit

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.

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（the grayed boxes are preset settings）:

```
                                                          ┌─────────────┐
                                          ┌──────────────┤    001      │
                           ┌──────────────┤ DMX Address  ├─────────────┤
                           │              └──────────────┤    512      │
                           │                              └─────────────┘
                           │              ┌──────────────┐┌─────────────┐
                           │              │              ││  Mode1(19)  │
               ┌───────────┤              │DMX Channel Mode├────────────┤
               │ DMX Settings├─────────────┤              ││  Mode2(21)  │
               │           │              └──────────────┘└─────────────┘
               │           │              ┌──────────────┐┌─────────────┐
               │           │              │              ││  Blackout   │
               │           │              │  DMX State   ├─────────────┤
               │           └──────────────┤              ││    Hold     │
               │                          └──────────────┘└─────────────┘
               │                          ┌──────────────┐
               │                          │View DMX Value│
               │                          └──────────────┘
```

DMX Address — 001 / 512

DMX Channel Mode — Mode1(19) / Mode2(21)

DMX State — Blackout / Hold

View DMX Value

Fixture Settings:
- Pan Inverse — No / Yes
- Tilt Inverse — No / Yes
- P/T Feedback — No / Yes
- Bl.o. P/T Moving — No / Yes
- Bl.o. Color Change — No / Yes
- Bl.o. Gobo Change — No / Yes

Lamp Settings:
- Lamp On/Off — Off / On
- State/Power On — Off / On
- Cooling Mode — Quiet / Fast

Display Setting:
- Display Inverse — No / Yes
- Backlight Intensity — 1~10
- Contrast Ratio — 0~30
- Temperature Unit — ℃ / ℉
- Language — English / Chinese

Fixture Test:
- Auto Test
- Manual Test

Fixture Information:
- Fixture Use Hour
- Light Use Hour — Exit / Reset Time
- Temperature
- Fan State
- Firmware Version

Reset Functions:
- Pan & Tilt
- Effect — No / Yes
- All

Special Functions:
- Factory — No / Yes

MENU

10B

DMX Settings

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

DMX Address —DMX512 address setting

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 one minute to exit menu mode.

DMX Channel Mode — channel mode

To select **DMX Channel Mode**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Mode1 (19) or Mode 2 (21)** 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.

DMX State — fixture state while DMX single stops

To select **DMX State**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **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 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 Inverse, Tile Inverse, P/T Feedback, BL.O. P/T Moving, BL.O. Color Change* or *BL.O. Gobo Change*.

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 one minute 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 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.

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 change color

To select **BL.O. Color Change**, press the **ENTER** button to confirm. Use **UP/DOWN** button to select **No** (normal while changing color) or **Yes** (blackout while change color), 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 change gobo

To select **BL.O. Gobo Change**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **No** (normal while changing gobo) or **Yes** (blackout while changing gobo), 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 *Fixture Settings*, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Lamp** *On/Off, State/Power on* or *Cooling Mode.*.

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.

Cooling Mode — Cooling for the fixture

To select **Cooling Mode**, press the **ENTER** button to confirm. Use the **UP/DOWN** button to select **Quiet** or **Fast**, 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 Setting*, press the **ENTER** button to confirm, use the **UP/DOWN** button to select *Display Inverse, Backlight Intensity,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 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.

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 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 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 ℃ or ℉, 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.

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 **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, shutter, color, CMY, gobo, gobo rotation, prism, prism rotation, iris, frost, zoom, focus, dimmer and lamp on/off. 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, Light use hour,Temperature,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.

Light use hour

Select **Light use hour**, press the **ENTER** button to confirm, light use time will show on the display, press the **ENTER** button to confirm, use the **UP/DOWN** button to select **Exit** or **Reset Time**, press the **ENTER** button to confirm. Press the **MENU** button back to the last menu or exit menu mode idling one minute.

Temperature

Select **Temperature**, press the **ENTER** button to confirm, fixture temperature 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 **Yes** (the unit will run built-in program to reset pan and tilt to their home positions) or **No**(normal), 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 **Yes** (the unit will run built-in program to reset effect to their home positions) or **No**, 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 **Yes** (the unit will run built-in program to reset all motors to their home positions) or **No**, press **ENTER** button to store. Press the **MENU** button to exit.
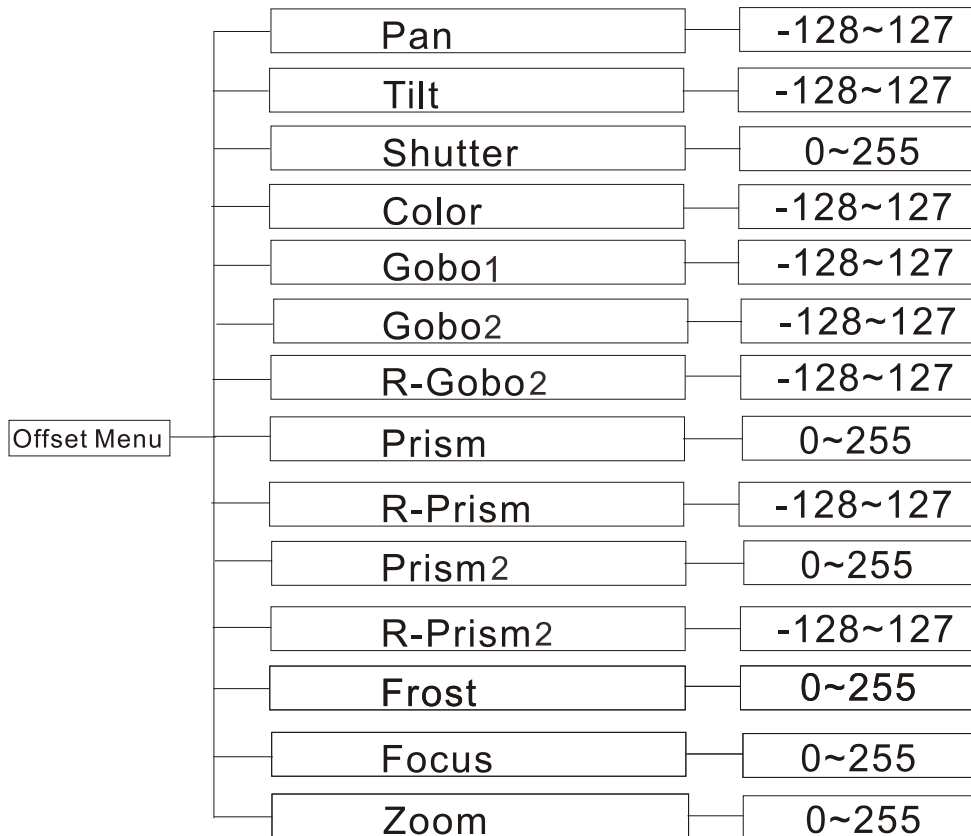
Special Functions

Factory Settings

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

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.

Offset Menu		
	Pan	-128~127
	Tilt	-128~127
	Shutter	0~255
	Color	-128~127
	Gobo1	-128~127
	Gobo2	-128~127
	R-Gobo2	-128~127
	Prism	0~255
	R-Prism	-128~127
	Prism2	0~255
	R-Prism2	-128~127
	Frost	0~255
	Focus	0~255
	Zoom	0~255

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 0 to 255, press the **ENTER** button to store. Press the **MENU** button to exit.

Color—Color home position adjustment

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—Gobo 1 home position adjustment

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—Gobo 2 home position adjustment

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 2—Gobo 2 rotation home position adjustment

Enter offset mode, Select **R-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.

Prism—Prism home position adjustment

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 0 to 255, press the **ENTER** button to store. Press the **MENU** button to exit.

R-Prism—Prism rotation home position adjustment

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.

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 0 to 255, press the **ENTER** button to

store. Press the **MENU** button to exit.

R-Prism 2—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 0 to 255, 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 0 to 255, 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 0 to 255, press the **ENTER** button to store. Press the **MENU** button to exit.

5.3 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 detected temperature is 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 always 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, Cyan Reset Fail, Magenta Reset Fail, Yellow Reset Fail, Gobo1 Reset Fail, R-Gobo1 Reset Fail, Gobo2 Reset Fail, Iris Reset Fail, Effect Reset Fail, R-Effect Reset Fail, Frost Reset Fail, Flat Reset Fail, Focus Reset Fail, Zoom 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.

6. Control By Universal DMX Controller

6.1 Connection

DMX Controller

DMX Out
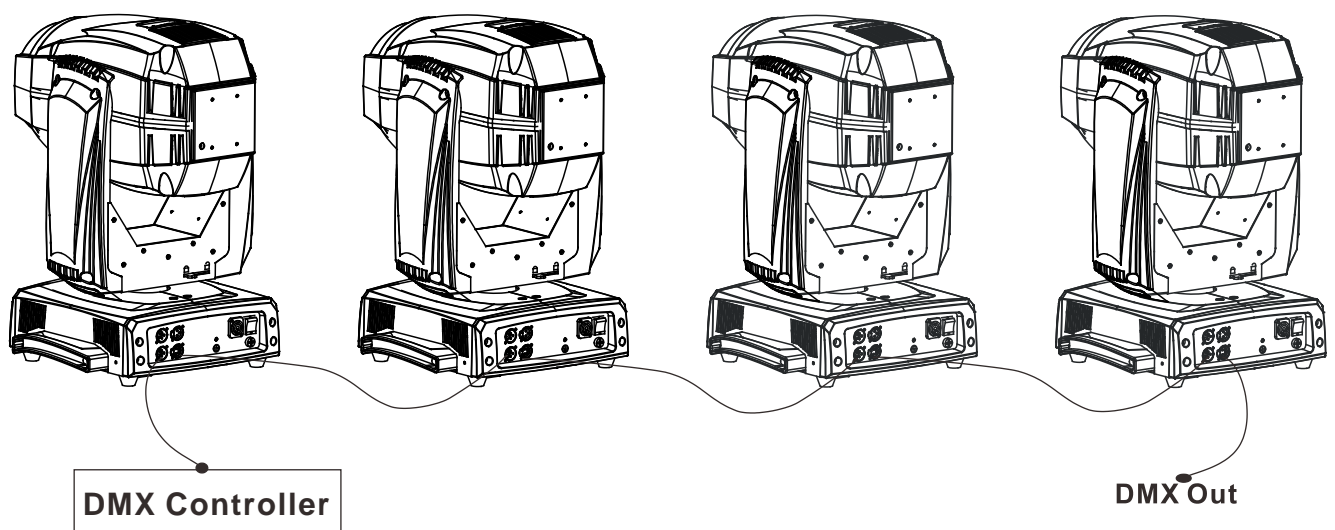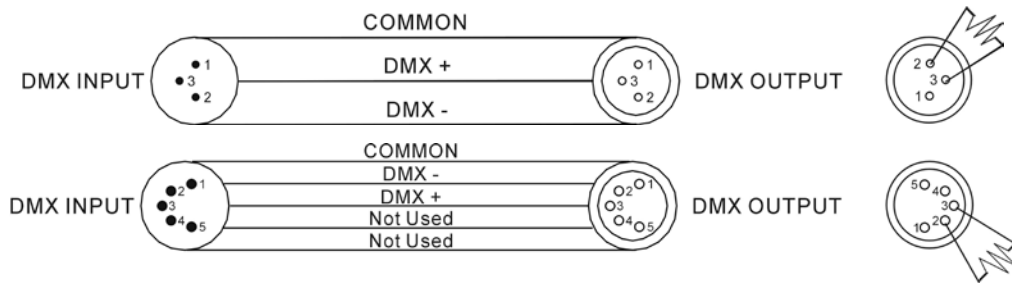
ATTENTION
Termination reduces signal errors and to avoid signal transmission problems and interference. It is always advisable to connect a DMX terminal (Resistance 120 ohm 1/4W between pin2 (DMX-) and pin3 (DMX+) of the last fixture).

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 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 blinking 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
19 channels	1	20	39	58
21channels	1	22	43	64

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.

19 Channels (Mode 1):

CHANNEL	VALUE	FUNCTION
1	000-255	**PAN** 0 ° → 540°
2	000-255	**PAN FINE**
3	000-255	**TILT** 0 ° → 270°
4	000-255	**TILT FINE**
5	000-255	**P/T SPEED** Fast → Slow
6	000-049 050-059 060-069 070-079 080-089 090-099 100-109 110-119	**SPECIAL FUNCTION** No function Enable Auto Color Frost Disable Auto Color Frost 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

	120-129	Disable blackout while gobo changing
	130-139	Lamp on
	140-149	Pan/Tilt reset
	150-159	Effect reset
	160-169	Fan speed quiet
	170-179	Fan speed fast
	180-189	Lamp full power
	190-199	Lamp half power
	200-209	All reset
	210-229	No function
	230-239	Lamp off
	240-255	No function
7		**COLOR**
	000-002	White
	003-004	Color 1
	005-006	Color 2
	007-008	Color 3
	009-010	Color 4
	011-012	Color 5
	013-014	Color 6
	015-016	Color 7
	017-018	Color 8
	019-021	Color 9
	022-023	Color 10
	024-025	Color 11
	026-027	Color 12
	028-029	Color 13
	030-031	Color 14
	032-033	Color 15
	034-035	Color 16
	036-037	Color 17
	038-039	Color 18
	040-042	Color 19
	043-044	Color 20
	045-046	Color 21
	047-048	Color 22
	049-050	Color 23
	051-052	Color 24
	053-054	Color 25
	055-056	Color 26
	057-058	Color 27
	059-060	Color 28
	061-063	Color 29
	064-127	Color wheel indexing
	128-189	Counter-Clockwise rotation, fast → slow
	190-193	Stop
	194-255	Clockwise rotation, slow → fast

		GOBO WHEEL 1	
8	000-003	Open	
	004-006	Gobo 1	
	007-009	Gobo 2	
	010-012	Gobo 3	
	013-015	Gobo 4	
	016-018	Gobo 5	
	019-021	Gobo 6	
	022-024	Gobo 7	
	025-027	Gobo 8	
	028-030	Gobo 9	
	031-033	Gobo 10	
	034-036	Gobo 11	
	037-039	Gobo 12	
	040-042	Gobo 13	
	043-045	Gobo 14	
	046-048	Gobo 15	
	049-055	Gobo 16	
	056-127	Gobo 1-16 Shaking	
	128-189	Counter-Clockwise rotation, fast → slow	
	190-193	Stop	
	194-255	Clockwise rotation, slow → fast	
		GOBO WHEEL 2	
9	000-005	Open	
	006-010	Gobo 2-1	
	011-015	Gobo 2-2	
	016-020	Gobo 2-3	
	021-025	Gobo 2-4	
	026-030	Gobo 2-5	
	031-036	Gobo 2-6	
	037-041	Gobo 2-7	
	042-046	Gobo 2-8	
	047-051	Gobo 2-9	
	052-056	Gobo 2-10	
	057-061	Gobo 2-11	
	062-067	Gobo 2-12	
	68-127	Gobo 2 1-12: shaking	
	128-189	Counter-Clockwise rotation, fast → slow	
	190-193	Stop	
	194-255	Clockwise rotation, slow → fast	
		R-GOBO 2	
10	000-127	Index	
	128-189	Clockwise rotation, fast → slow	
	190-193	Stop	
	194-255	Counter-clockwise rotation, slow → fast	
		PRISM	
11	000-007	No prism effect	

	008-255	Prism effect
12	000-127 128-189 190-193 194-255	**R-PRISM 1** Index rotation Counter-Clockwise rotation, fast → slow Stop Clockwise rotation, slow → fast
13	000-007 008-255	**PRISM 2** No prism effect Prism effect
14	000-127 128-189 190-193 194-255	**R-PRISM 2** Index rotation Counter-Clockwise rotation, fast → slow Stop Clockwise rotation, slow → fast
15	000-255	**ZOOM** 100% → 0%
16	000-255	**FOCUS** near→ far
17	000-007 008-255	**FROST** Off On
18	000-007 008-015 016-131 132-167 168-203 204-239 240-247 248-255	**SHUTTER** Shutter Off Open Strobe, slow → fast Slow open, fast close Fast open, slow close Slow open, slow close Random strobe Open
19	000-255	**DIMMER** 0% → 100%

21 Channels (Mode 2):

CHANNEL	VALUE	FUNCTION
1	000-255	**PAN** 0 ° → 540°
2	000-255	**PAN FINE**
3		**TILT**

	000-255	0 ° → 270°
4	000-255	**TILT FINE**
5		**P/T SPEED**
	000-255	Fast → Slow
6		**SPECIAL FUNCTION**
	000-049	No function
	050-059	Enable Auto Color Frost
	060-069	Disable Auto Color Frost
	070-079	Enable blackout while pan/tilt moving
	080-089	Disable blackout while pan/tilt moving
	090-099	Enable blackout while color changing
	100-109	Disable blackout while color changing
	110-119	Enable blackout while gobo changing
	120-129	Disable blackout while gobo changing
	130-139	Lamp on
	140-149	Pan/Tilt reset
	150-159	Effect reset
	160-169	Fan speed quiet
	170-179	Fan speed fast
	180-189	Lamp full power
	190-199	Lamp half power
	200-209	All reset
	210-229	No function
	230-239	Lamp off
	240-255	No function
7		**COLOR**
	000-002	White
	003-004	Color 1
	005-006	Color 2
	007-008	Color 3
	009-010	Color 4
	011-012	Color 5
	013-014	Color 6
	015-016	Color 7
	017-018	Color 8
	019-021	Color 9
	022-023	Color 10
	024-025	Color 11
	026-027	Color 12
	028-029	Color 13
	030-031	Color 14
	032-033	Color 15
	034-035	Color 16
	036-037	Color 17
	038-039	Color 18
	040-042	Color 19

	043-044	Color 20
	045-046	Color 21
	047-048	Color 22
	049-050	Color 23
	051-052	Color 24
	053-054	Color 25
	055-056	Color 26
	057-058	Color 27
	059-060	Color 28
	061-063	Color 29
	064-127	Color wheel indexing
	128-189	Counter-Clockwise rotation, fast → slow
	190-193	Stop
	194-255	Clockwise rotation, slow → fast
8		**GOBO WHEEL 1**
	000-003	Open
	004-006	Gobo 1
	007-009	Gobo 2
	010-012	Gobo 3
	013-015	Gobo 4
	016-018	Gobo 5
	019-021	Gobo 6
	022-024	Gobo 7
	025-027	Gobo 8
	028-030	Gobo 9
	031-033	Gobo 10
	034-036	Gobo 11
	037-039	Gobo 12
	040-042	Gobo 13
	043-045	Gobo 14
	046-048	Gobo 15
	049-055	Gobo 16
	056-127	Gobo 1-16 Shaking
	128-189	Counter-Clockwise rotation, fast → slow
	190-193	Stop
	194-255	Clockwise rotation, slow → fast
9		**GOBO WHEEL 2**
	000-005	Open
	006-010	Gobo 2-1
	011-015	Gobo 2-2
	016-020	Gobo 2-3
	021-025	Gobo 2-4
	026-030	Gobo 2-5
	031-036	Gobo 2-6
	037-041	Gobo 2-7
	042-046	Gobo 2-8
	047-051	Gobo 2-9

	052-056	Gobo 2-10
	057-061	Gobo 2-11
	062-067	Gobo 2-12
	68-127	Gobo 2 1-12: shaking
	128-189	Counter-Clockwise rotation, fast → slow
	190-193	Stop
	194-255	Clockwise rotation, slow → fast
10	000-127 128-189 190-193 194-255	**R-GOBO 2** Index Clockwise rotation, fast → slow Stop Counter-clockwise rotation, slow → fast
11	000-007 008-255	**PRISM** No prism effect Prism effect
12	000-127 128-189 190-193 194-255	**R-PRISM 1** Index rotation Counter-Clockwise rotation, fast → slow Stop Clockwise rotation, slow → fast
13	000-007 008-255	**PRISM 2** No prism effect Prism effect
14	000-127 128-189 190-193 194-255	**R-PRISM 2** Index rotation Counter-Clockwise rotation, fast → slow Stop Clockwise rotation, slow → fast
15	000-255	**ZOOM** 100% → 0%
16	000-255	**ZOOM FINE**
17	000-255	**FOCUS** near→ far
18	000-255	**FOCUS FINE**
19	000-007 008-255	**FROST** Off On
20	000-007 008-015 016-131 132-167 168-203	**SHUTTER** Shutter Off Open Strobe, slow → fast Slow open, fast close Fast open, slow close

	204-239	Slow open, slow close
	240-247	Random strobe
	248-255	Open
21	000-255	**DIMMER** 0% → 100%

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.

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.

E. If The pan belt is broken

1. Turn off the mains power.

2. Loosen the screws (A), open the cover.

3. Loosen the screws (B).

4. Unplug all the connect wires over the belt.

5. Change a new belt (C), put the belt around the axis gear and motor gear.

6. Plug all the connect wires back upon the belt.

7. Tighten all the screws.
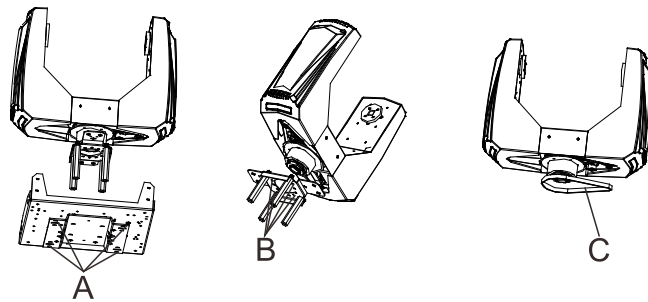
F. If The tilt belt is broken

1. Turn off the mains power.

2. Loosen all the screws (A) and open the right arm cover (B).

3. Loosen the screws (C) that fix the bridge.

4. Change a new belt (D). Please adjust the tension of the belt properly. Note: do not fix the belt too tight as it is can easily rupture.

5. Reverse the procedures from step 3 to 2.
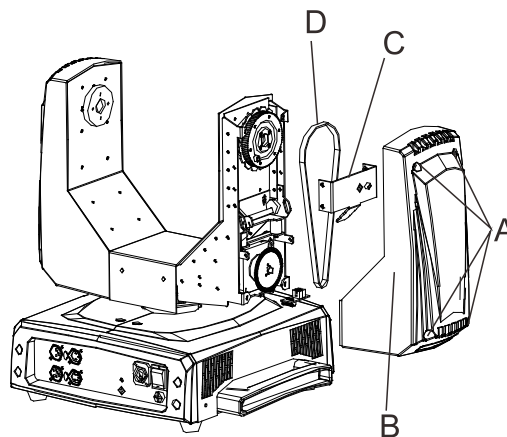
8. Maintenance and Cleaning

Maintenance:
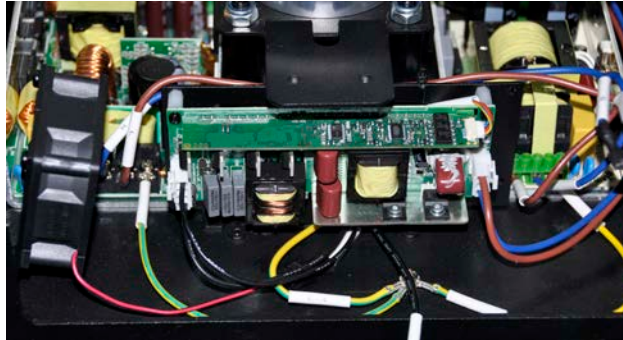
Ballast

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 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.

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