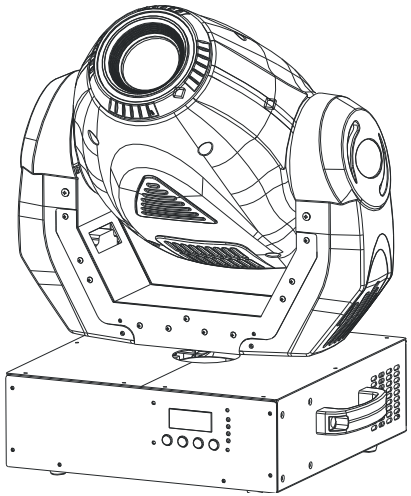
DMX512

LINKABLE
STAND ALONE

Marvelous Sound Activation

RULER SPOT



MH-575S

User Guide

Please read these instructions carefully before use

TABLE OF CONTENTS

1. Safety Instruction

Please read carefully the instruction, 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 booklet.
- Unpack and check carefully there is no transportation damage before using the unit.
- 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.
- The unit is for indoor use only. Use only in a dry location.
- 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.
- Disconnect main power before fuse/lamp replacement or servicing.
- Replace fuse/lamp only with the same type.
- Make sure there are no flammable materials close to the unit while operating, as it is fire hazard.
- Use safety chain when fixes this unit. Don't handle the unit by taking its head only, but always by taking its base.
- Maximum ambient temperature is Ta : 40℃. Don't operate it where the temperature is higher than this.
- Unit surface temperature may reach up to 85℃. Don't touch the housing bare-hand during its operation, and allow about 15 minutes to cool down before replacing bulb or serving, as the unit could be very hot.
- In the event of serious operating problem, stop using the unit immediately. 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. Always use the same type spare parts.
- Don't connect the device to any dimmer pack.
- Do not touch any wire during operation as there might be a hazard of electric shock.

Warning

- To prevent or reduce the risk of electrical shock or fire, do not expose the unit to rain or

moisture.

- Never touch bulb with bare fingers, as it is very hot after using.
- Hot lamp explosion hazard. Do not open the unit within five minutes after switching off.
- Do not start on the unit without bulb enclosure or when housing is damaged.
- The housing, the lenses, or the ultraviolet filter must be replaced if they are visibly damaged.
- Do not look directly at the light while the bulb is on.

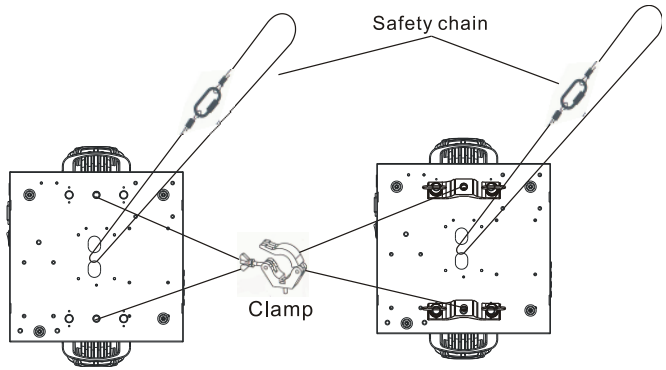
Caution

There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs by yourself. In the unlikely event your unit may require service, please contact your nearest dealer.

Installation

The unit should be mounted via its screw holes on the bracket (please refer to the drawing below). Always ensure that the unit is firmly fixed to avoid vibration and slipping while operating. Always ensure that the structure to which you are attaching the unit is secure and is able to support a weight of 10 times of the unit's weight. Also always use a safety cable that can hold 12 times of the weight of the unit when installing the fixture.

The equipment must be fixed by professionals. And it must be fixed at a place where is out of the touch of people and has no one pass by or under it.



2. Technical Specification

Power supply

- AC 120V~60Hz or AC 230/240/250V~50/60Hz

Lamp

- NSD 575/2, MSD 575/2

Optical system

- High efficiency optical system
- High quality optical lens and dichroic colors
- Beam angle: 13°

Shutter/Dimmer

- Blackout, 0~100 smooth dimming and strobe speed variable(1~10 flashes per second).

Color wheel

- Independent color wheel with 9 trapezoid dichroic colors plus white.
- Color wheel rotates with variable speed, giving rainbow effect.

Gobo wheel

- Independent gobo wheel with 7 rotating, interchangeable gobos plus open
- Gobo wheel rotates with variable speed, giving shaking effect.

Effect Wheel

- Prism/Rotating Prism

Movement

- Pan: 540° in 2.8 second.
- Tilt: 270° in 1.6 second.

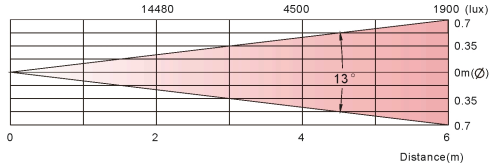
DMX Channels

- Standard DMX 512 signal addressing and can be controlled by any universal DMX controller.

13 Channels:

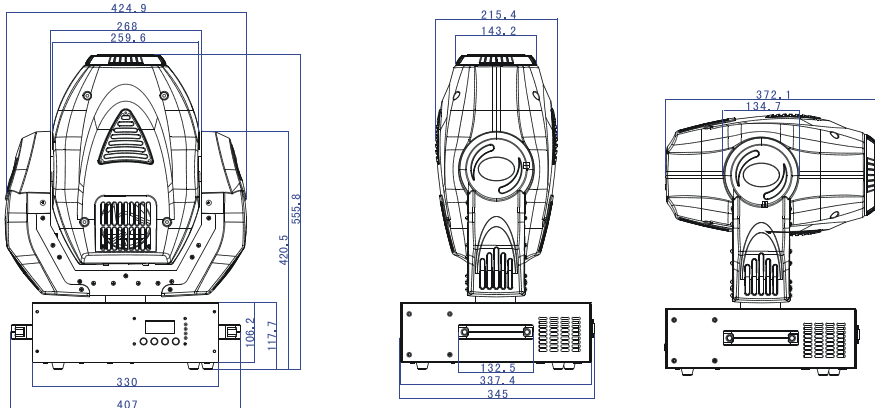
Channel 1 = Pan	Channel 9 = Gobo
Channel 2 = Pan 16Bit	Channel 10 = Gobo Rotation
Channel 3 = Tilt	Channel 11 = Prism
Channel 4 = Tilt 16Bit	Channel 12 = Focus
Channel 5 = Pan/Tilt Speed	Channel 13 = Functions
Channel 6 = Dimmer	
Channel 7 = Strobe/Shaking	
Channel 8 = Color	

Luminous intensity:



Dimension: 425 x 556 x 372 mm

Weight: 23 kg



2.1. Inserting/Exchanging rotating gobos

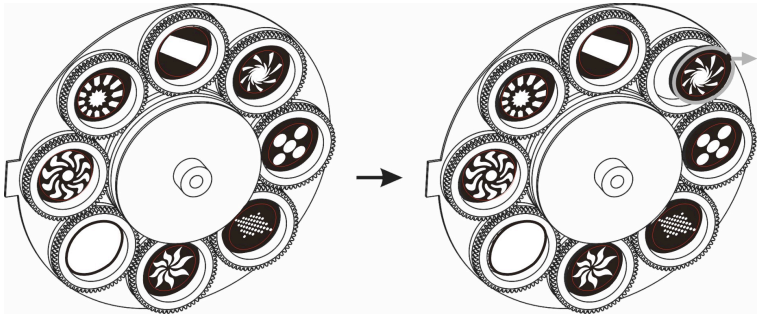
DANGER!

Install the gobos with the device switched off only.

Unplug from mains before changing gobos!

Open the cover by loosening the fastening screw at the sides of the cover.

If you wish to use other forms and patterns as the standard-gobos, or if the gobos are to be exchanged, remove the fixation ring with an appropriate tool. Remove the gobo and insert the new gobo. Press the fixation-ring together and insert it in the front of the gobo.



CAUTION!

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

3. Lamp

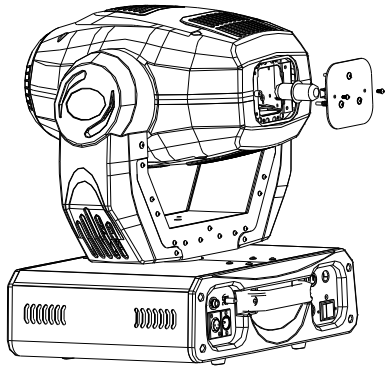
WARNING

In case of replacement of the lamp or maintenance, do not open the fixture within 15 minutes until the unit cools down after switching off.

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 looks directly at the lamp.

NSD 575/2, MSD 575/2

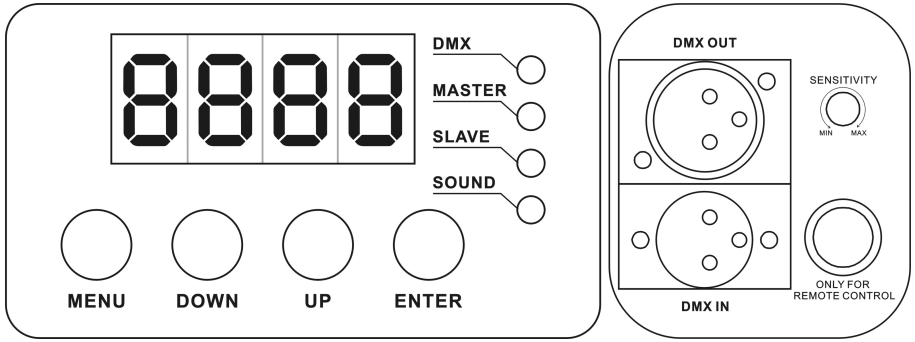
1. Always switch off the main supply and never handle the lamp or luminaire when it is hot.
2. Do not touch the bulb with bare hands. If this happens, clean the lamp with denatured alcohol and wipe it with a lint free cloth before installation.
3. The lamp generates UV radiation. Never operate the lamp without appropriate shielding.



4. When burning, 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 any longer than its specified life.
5. Make sure the lamp is located in the center of the reflector for the best spot.

4. How To Set The Unit

4.1. Control Panel



Display

To show the various menus and the selected functions

LED

DMX	On	DMX input present
MASTER	On	Master mode
SLAVE	On	Slave mode
SOUND	Flashing	Sound activation

Button

MENU	To select the programming functions
DOWN	To go backward in the selected functions
UP	To go forward in the selected functions
ENTER	To confirm the selected functions

DMX input/output

For DMX512 operation, use 3-pin XLR plug cable to link the unit together.

Power Switch

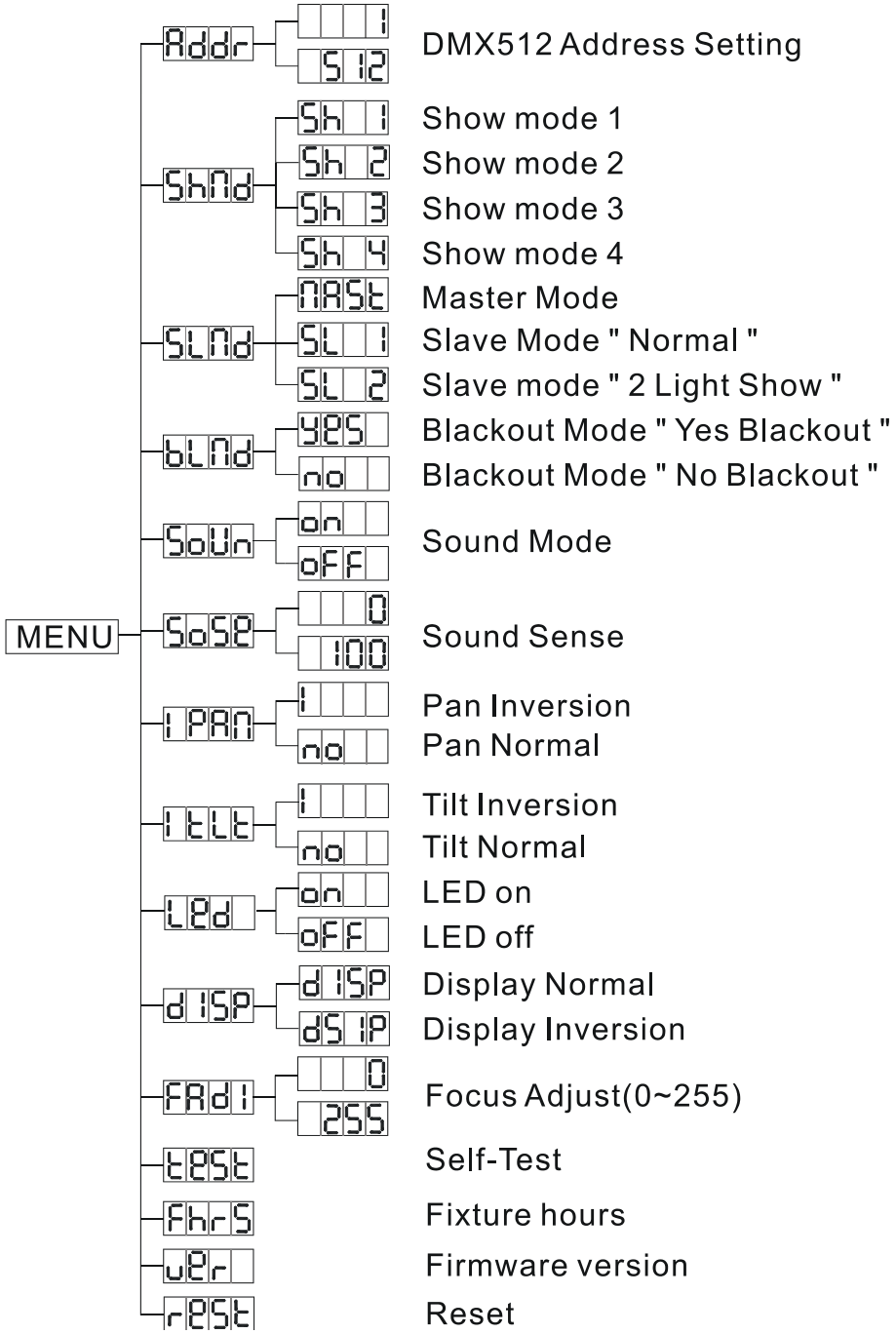
Switch power ON/OFF

Power Input

Connect to supply power for the fixture.

4.2. Main Function

To select any of the pre-set functions, press the **MENU** button up to when the required one is shown on the display. Select the function by **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the mode. Once the required mode has been selected, press the **ENTER** button to setup or it will automatically return to the main functions without any change after idling 8 seconds. To go back to the functions without any change press the **MENU** button. The main functions are shown below:



Addr DMX512 Address Setting

Press the **MENU** button up to when the Addr is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the DMX512 address. Once the address has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

ShAd Show Mode

Press the **MENU** button up to when the ShAd is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the SL 1 (show 1) or Sh 2 (show 2) or Sh 3 (show 3) or Sh 4 (show 4) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

Sh 1 Show 1 mode - Fixture is placed on the floor. Tilt movement angle 210°.

Sh 2 Show 2 mode - Fixture is fixed under ceiling. Tilt movement angle 90°.

Sh 3 Show 3 mode - Fixture is placed on the speaker, The spot is always projecting to the audience's direction; i.e in front of the stage. Pan movement angle (left to right to left): 160°. Tilt movement angle: 90° (60° above horizon; 30° below horizon).

Sh 4 Show 4 mode - Fixture is fixed under ceiling. The spot is mainly projecting in front of the stage. Pan movement angle (left to right to left) :160°. Tilt movement angle: 90° (vertically, front 75°; back 15°) .

SLAd Slave Mode

Press the **MENU** button up to when the SLAd is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the MASt(Master) or SL 1 (normal) or SL 2 (2 light show) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

bLnd **Blackout Mode**

Press the **MENU** button up to when the bLnd is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the yES (yes blackout) or no (no blackout) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

SoUn **Sound Mode**

Press the **MENU** button up to when the SoUn is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the yES (Sound On) or no (Sound Off) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

SoSE **Sound Sense**

Press the **MENU** button up to when the SoSE is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the value of sound sense from 0~255. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

IPAn **Pan Inversion**

Press the **MENU** button up to when the IPAn is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the no (normal) or I (pan inversion) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

ItLt **Tilt Inversion**

Press the **MENU** button up to when the ItLt is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the no (normal) or I (tilt inversion) mode. Once the mode has been selected, press the **ENTER**

button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

LEd **Led Display**

Press the **MENU** button up to when the LEd is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the on (Led on) or oFF (Led off) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically return to the main functions without any change after 8 seconds. To go back to the functions without any change press the **MENU** button again.

IdSP **Display Inversion**

It is good for you to install the unit on the floor or under ceiling. Press the **MENU** button up to when the IdSP is blinking on the display. Use the **ENTER** button to change to the mode dSPI (display inversion), It will automatically store after 8 seconds. Or press the **ENTER** button again return to the mode IdSP (display normal). To go back to the functions press the **MENU** button.

IdSP Display normal mode for the fixture putting on the floor.

dSPI Display inversion mode for the fixture fixing under ceiling.

FAdJ **Focus Adjust**

Press the **MENU** button up to when the FAdJ is blinking on the display. Pressing **ENTER** button, the unit will focus on tilt 90°, and then the unit will focus on tilt 0°, pan 0°, pan 90°, pan 180°, pan 270° in every pressing **ENTER** button. To go back to the functions press the **MENU** button again.

tESt **Self-Test**

Press the **MENU** button up to when the tESt is blinking on the display. Pressing **ENTER** button and the unit will run self-test by built-in program. To go back to the functions press the **MENU** button again.

FHrS **Fixture Hours**

Press the **MENU** button up to when the FHrS is blinking on the display. Pressing **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.

Firmware version

Press the **MENU** button up to when the  is blinking on the display. Pressing **ENTER** button and the display will show the firmware version of the unit. To go back to the functions press the **MENU** button again.

Reset

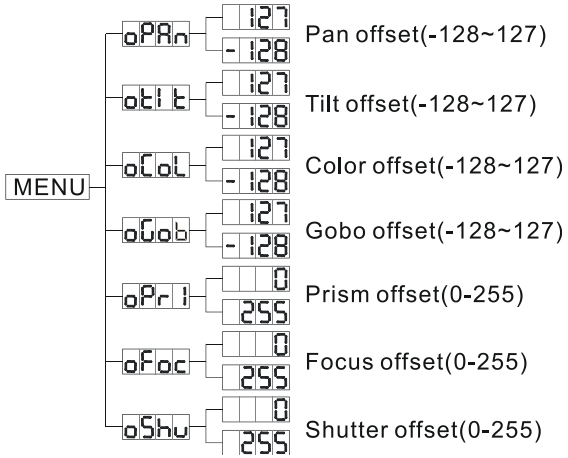
Press the **MENU** button up to when the  is blinking on the display. Pressing **ENTER** button and all channels of the unit will return to their standard position. To go back to the functions press the **MENU** button again.

DMX RESET :

Set DMX value of channel 13 between 200 to 255, then all channels of the unit will return to their standard home position.

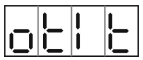
4.3 Home Position Adjustment

Press **MENU** button for at least 5 seconds into offset mode to adjust the home position.



Pan offset

Press the **MENU** button for at least 5 seconds into offset mode, use **DOWN** and **UP** button up to when the  is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to adjust the pan home position. Once the position has been selected, press the **ENTER** button to setup or automatically return to the offset functions without any change press the **MENU** button again, To go back to the main functions without any change after 8 seconds.



Tilt offset

Press the **MENU** button for at least 5 seconds into offset mode, use **DOWN** and **UP** button up to when the  is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to adjust the tilt home position. Once the position has been selected, press the **ENTER** button to setup or automatically return to the offset functions without any change press the **MENU** button again, To go back to the main functions without any change after 8 seconds.

Color offset

Press the **MENU** button for at least 5 seconds into offset mode, use **DOWN** and **UP** button up to when the  is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to adjust the color home position. Once the color has been selected, press the **ENTER** button to setup or automatically return to the offset functions without any change press the **MENU** button again, To go back to the main functions without any change after 8 seconds.

Gobo offset

Press the **MENU** button for at least 5 seconds into offset mode, use **DOWN** and **UP** button up to when the  is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to adjust the gobo home position. Once the gobo has been selected, press the **ENTER** button to setup or automatically return to the offset functions without any change press the **MENU** button again, To go back to the main functions without any change after 8 seconds.

Prism offset

Press the **MENU** button for at least 5 seconds into offset mode, use **DOWN** and **UP** button up to when the  is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to adjust the prism home position. Once the prism has been selected, press the **ENTER** button to setup or automatically return to the offset functions without any change press the **MENU** button again, To go back to the main functions without any change after 8 seconds.

FAdJ **Focus Adjust**

Press the **MENU** button for at least 5 seconds into offset mode, use **DOWN** and **UP** button up to when the FAdJ is shown on the display. Pressing **ENTER** button, the unit will focus on the center position. Use **DOWN** and **UP** button to adjust focus, this settings only for offset mode to adjust home position. To go back to the main functions without any change after 8 seconds

FAdJ **Shutter Adjust**

Press the **MENU** button for at least 5 seconds into offset mode, use **DOWN** and **UP** button up to when the oCob is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to adjust the Shutter home position. Once the shutter has been selected, press the **ENTER** button to setup or automatically return to the offset functions without any change press the **MENU** button again, To go back to the main functions without any change after 8 seconds.

5. How To Control The Unit

You can operate the unit in three ways:

1. Master/slave built-in preprogram function
2. Universal DMX controller

No need to turn the unit off when you change the DMX address, as new DMX address setting will be effected at once. Every time you turn the unit on, it will show **M575** on the display and move all the motors to their 'home' position and you may hear some noises for about 20 seconds. After that the unit will be ready to receive DMX signal or run the built-in programs.

5.1 Master/Slave Built-In Preprogrammed Function

You can select blackout mode bLnd in YES (yes blackout) or no (no blackout) mode while the unit is turned on. By linking the units in master/slave connection, the first unit will control the other units to give an automatic, sound activated, synchronized light show. This function is good when you want an instant show. You have to select show (show 1, 2, 3, 4) modes by easy controller . Its DMX input jack will have nothing plugged into it, and Its master LED will be constantly on and sound LED will flash to the music. The other units will have to set in slave mode SLnd and select nASt(Master) or SL 1 (normal) or

SL 2 (2 light show) mode, Their DMX cables plugged into the DMX input jacks (daisy chain) and the slave LED lights will constantly on.

2-light show

In SLnd (slave mode), nASt (Master) or SL 1 means the unit works normally and SL 2 means 2-light show. In order to create a great light show, you can set SL 2 on the second unit to get contrast movement to each other, even if you have two units only.

5.2 DMX Controller

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

Press the **MENU** button up to when the Addr is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the DMX512 address. Once the address has been selected, press and keep **ENTER** button pressed up to when the display stops blinking or storing automatically 8 seconds later. To go back to the functions without any change press the **MENU** button again.

Please refer to the following diagram to address your DMX512 channel for the first 4 units.

13 Channels: 1 14 27 40

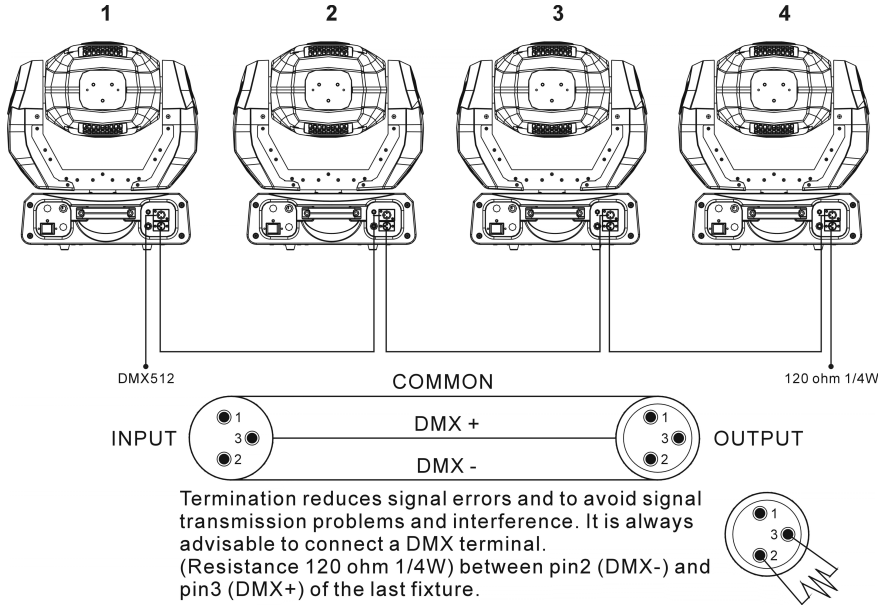
5.3 DMX 512 Configuration

13 Channels DMX-512 Configuration

Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7
Pan	Pan 16 bit	Tilt	Tilt 16 bit	Pan/Tilt speed select	Dimmer	Strobe/Shaking
255 540° 0 0°	255 16 BIT PAN 0	255 270° 0 0°	255 16 BIT TILT 0	255 Slow 0 Fast	255 100% 0 0%	248-255 Open 240-247 Random Strobe 239 Fast shaking 132 Slow shaking 131 Fast Strobe 16 Slow Strobe 008-015 Open 000-007 Blackout

Channel 8	Channel 9	Channel 10	Channel 11	Channel 12	Channel 13
Color	Gobo	Gobo Rotation	Prism	Focus	Function
255 Slow 194 Fast 190-193 Stop 189 Fast 128 Slow 064-127 index 057-063 green 051-056 magenta 045-050 light blue 038-044 yellow 032-037 red 026-031 blue 019-025 UV purple 013-018 light green 007-012 pink 000-006 white	255 Fast 194 Slow 190-193 Stop 189 Slow 128 Fast 112-127 096-111 080-095 064-079 048-063 032-047 016-031 000-015	246-255 Stopped 245 Fast 135 Slow 121-134 Stopped 120 Fast 010 Slow 000-009 Stopped	008-255 Prism effect On 000-007 Prism Off	255 0	210-255 No Function 200-209 Reset All 130-199 No function 120-129 Disable blackout while Gobo change 110-119 Enable blackout while Gobo change 100-109 Disable blackout while Color change 090-099 Enable blackout while Color change 080-089 Disable blackout while Pan/Tilt move 070-079 Enable blackout while Pan/Tilt move 000-069 No Function

5.4 DMX512 Connection



1. If you use a controller with 5 pins DMX connector, you need to use a 5 to 3 pin adapter.
2. 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.
3. 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. DMX512 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.
4. The DMX output and input connectors are pass-through to maintain the DMX circuit, when power is disconnected to the unit.
5. Each lighting unit needs to have an address set to receive the data sent by the controller. The address number is between 0-511 (usually 0 & 1 are equal to 1).
6. The end of the DMX512 system should be terminated to reduce signal errors.
7. 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 (+)

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.

B. Not responding to DMX controller

1. DMX LED should be on. If not, check DMX connectors, cables to see if link 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. Some units don't respond to the easy controller

1. You may have a break in the DMX cabling. Check the LED for the response of the master/ slave mode signal.
2. Wrong DMX address in the unit. Set the proper address.

D. No response to the sound

1. Make sure the unit is not receiving DMX signal.
2. Check microphone to see if it is good by tapping the microphone.

E. 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.

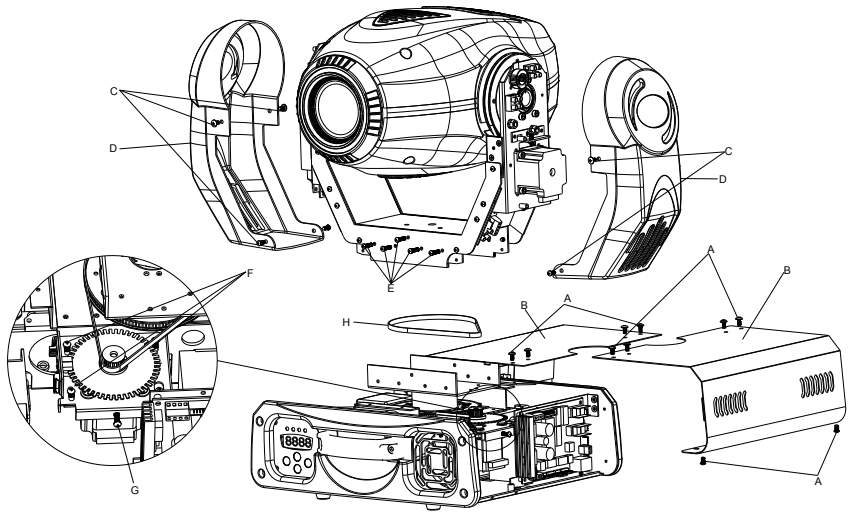
F. The lamp is cutting out intermittently

1. The lamp is not working well. Check the main voltage either too high or too low.

2. Internal temperature may be too high. Check and if necessary replace the fan on the head.

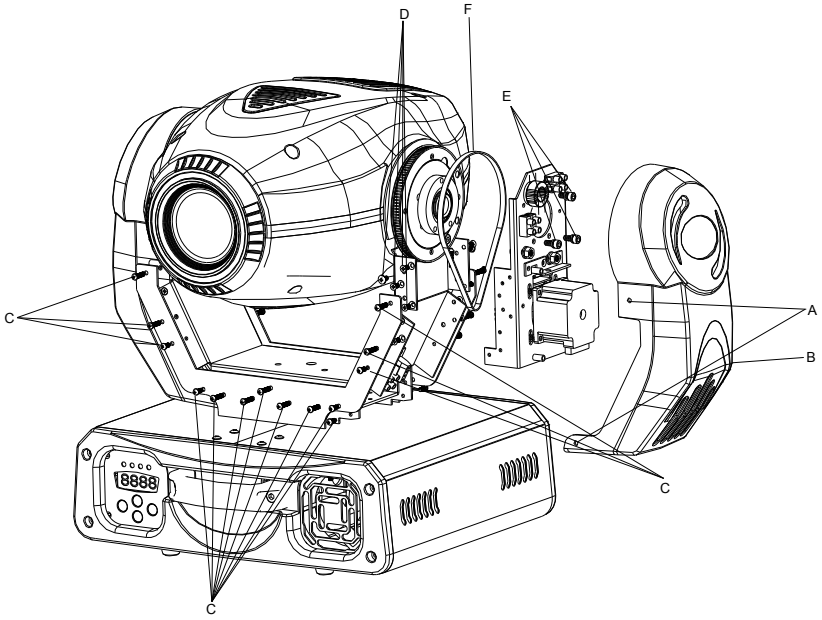
G. If The pan belt is broken

1. Turn off the main power.
2. Unscrew all the screws (A) and open the base-housing cover (B).
3. Unscrew all the screws (C) and open the arm cover (D).
4. Unplug all the connect wires that from the arm to the bottom.
5. Unscrew the screws (E) and remove the fixture head.
6. Loose the screws (F), then loose the screws (G).
7. Change a new belt (H) , put the belt around the axis gear and motor gear.
8. Screwed the screws (G), install the new belt and adjust the belt tension properly. Note: do not fix belt too tight as it is easy to rupture.
9. Plug all the connect wires back that form the bottom to the arm.
10. Reverse the procedures from point 5 to point 2.



F. If The tilt belt is broken

1. Turn off the main power.
2. Unscrew all the screws (A) and open the right arm cover (B).
3. Unscrew the screws (C), the screws (D) and screws (E) that fix the bridge.
4. Change a new belt (F). Please adjust the tension of the belt properly. Note: do not fix belt too tight as it is easy to rupture.
5. Reverse the procedures from point 3 to 2.



Pay attention to the belt tension when install the belt.

Please refer to the photos below:

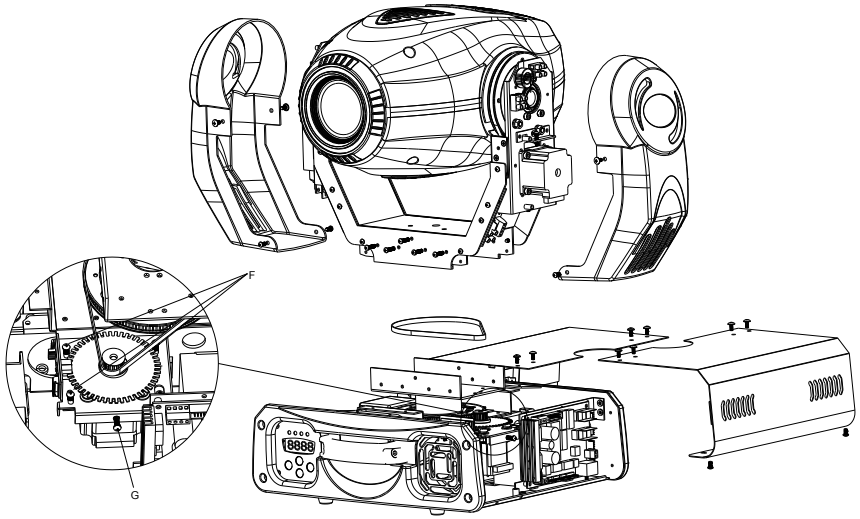


Photo 1

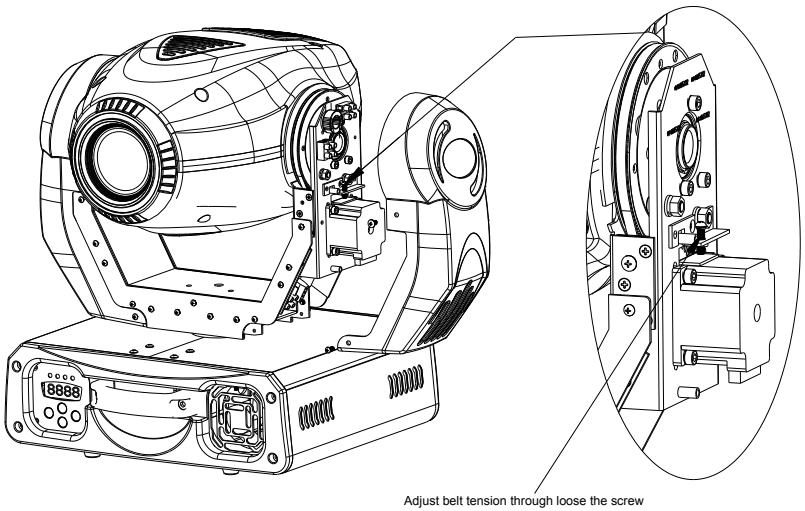
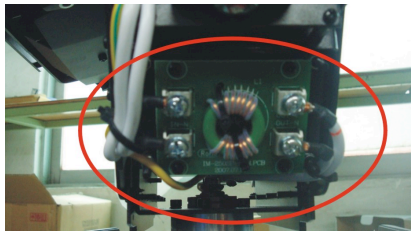


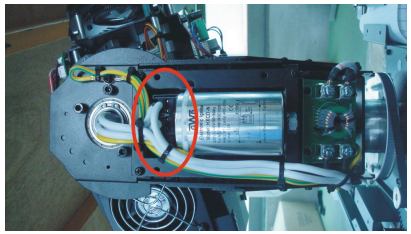
Photo 2

7. Maintenance and Cleaning

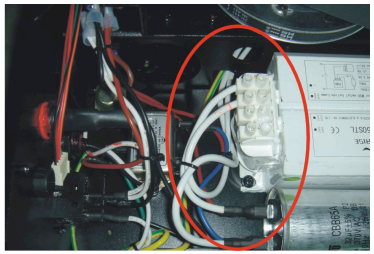
Maintenance:



Anti-interference plate



Ignitor



Ballast

A. As the pictures shown above, if the cable or cable joints turned yellow or black, please replace the cable or cable joints immediately.

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 using normal glass cleaning 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.

EC 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.

EN55014-2: 1997 A1:2001, EN61000-4-2: 1995; EN61000-4-3:2002;
EN61000-4-4: 1995; EN61000-4-5: 1995, EN61000-4-6:1996,
EN61000-4-11: 1994.

&

Harmonized Standard

EN 60598-1: 2004
IEC 60598-1:2003+ corrigendum 2004
Part 1:General requirements and test

Following the provisions of the low voltage directive 73/23/EEC and 93/68/EEC

Innovation , Quality , Performance