## brighter



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## 1. Precautions and Installation Precautions and installation

### 1.1 The statement

Thank you for choosing our products!When this product leaves the factory, the performance is intact, the package is complete.In order to use this product safely and effectively, please read this instruction manual carefully and completely before using this product.This manual contains important installation and use information, please install and operate according to the requirements of the manual, at the same time, please keep this manual properly for use at any time. Our company does not assume any responsibility for the damage of the lighting or other performance caused by the failure of the individual to operate according to the instructions during installation, use and maintenance.

This manual is subject to technical changes without prior notice.

## 1.2 maintenance

- Disconnect the power supply before performing maintenance.
- The lamp should be kept dry, avoid working in damp environment.
- Intermittent use will effectively prolong the life of the lamps.
- For good ventilation and lighting, take care to clean fans and fan nets and lenses frequently.
- Do not use alcohol and other organic solvents to wipe the lamp shell, so as not to cause damage.


### 1.3 Product Precautions

- This lamp is for professional use only.
- Before operation, ensure that the power supply voltage is consistent with equipment requirements.
- Do not place the product in places where it is easy to loose or shake.
- In the process of use, if the lamp is abnormal, stop using the lamp in time.
- To ensure the service life of the product, do not put the product in the damp or leaking place, and do not work in the environment where the temperature is above 60 degrees.
- When the bulb is used, the voltage change of the power supply should not exceed $\pm 10 \%$. If the voltage is too high, the life of the bulb will be shortened. If the voltage is too low, the light color of the bulb will be affected.
- After power off, it is necessary to use the lamp to cool down fully after 20 minutes before power on again.
- Rotating parts of lamps and lanterns and sticking accessories must be checked regularly, loose, shaking timely reinforcement, in case of accidents.
- To ensure the normal use of this product, please read this instruction carefully.


### 1.4 Product introduction

Input voltage: AC110V-240V / 50-60Hz
Light source: LED White 280W
Life time: 50000 hours
Rated power: 300 W
Channel mode: 17CH
Pan/Tilt movement: $540^{\circ} / 270^{\circ}$, adopting a function which resets 16 bit accurately and automatically Dimmer: 0-100\%, electronic linear dimming
Frost : 1 independent frost lens, soft and natural light spot
Zoom range: 9-30 degrees
Strobe: $1-25 \mathrm{~Hz}$, strobe speed adjustable
Color: 9 colors + white light
Fixed gobo wheel: 9 gobos + white light

Rotation gobo wheel: 7 glass gobos + white light, each glass gobos can independently rotate forward and backward
Prism: 3 prisms, independent rotation forward and backward
Working mode: DMX512 control, Auto mode, master/slave mode
RDM Display: LCD
Control signal: international standard DMX512.With the RDM function, you can upgrade software online and dial address codes
Cooling: Active fan
Material: Aluminum, copper, steel, plastic
Working environment :-20 degrees ~ 40 degrees
Protection level: IP20
Product size: $300 * 205 * 542 \mathrm{~mm}$
Net weight: 13 kg
Color:
Static Gobo:


Rotation Gobo


Size:


### 1.5 Signal line connection

Lamps feature standard DMX input and output 3-core or 5-core XLR sockets.Please use shielded twisted-pair signal cable specially for DMX 512 ;The signal line is generally connected at a distance of 150 meters. When long-distance signal is transmitted, DMX512 signal amplifier must be added.
A shielded twisted-pair signal line is used to connect the DMX output port of the controller to the DMX input port of the first device, and from the DMX output port of the first device to the DMX input port of the second device, and so on, until all lamps are connected. Then install a terminal plug on the 3 -core jack of the last connecting lamp output in each circuit.(Weld a 4/1W, $120 \omega$ resistor between the 2 and 3 pins of the 3 -core card plug with a needle).


Figure 1 Schematic diagram of DMX signal cable connection
> Calculation method of initial address code of lamps:
The start address code of the current lamp is equal to (the start address code of the previous lamp)+(the number of channels of the lamp)
1 : the start address of the first lamp is A001.
2: the basic number of channels of the controller should be greater than or equal to the total number of channels used by the lamp.
3: Note: when using any controller, each lamp should have its own start address code, if the start address code of the first lamp is set to A001, the number of lamps is 16 CH ;The starting address code of the second lamp is set to A017.The starting address code of the third lamp is set to A033;And so on,(this setting method also needs to be determined according to different console)

### 1.6 Installation of lamps and lanterns

Lamps can be placed horizontally, diagonally or upside down.Pay attention to the installation method when slant and upside down.

As shown Fixed gobo 2, it is necessary to ensure the stability of the installation site before positioning the lamp. During the installation of the inverted hanging, it is necessary to ensure that the lamp does not fall off from the support frame, and the safety rope should be used to pass through the support frame and the handle of the lamp for auxiliary hanging to ensure safety. Prevent lamp from falling and sliding.FIG. 2 Schematic diagram of upside-down lamps 1

During the installation and debugging of the lamps, pedestrians are not allowed to pass under the lamps. Check regularly whether the safety ropes are worn or the hook screws are loose.

Our company will not assume any responsibility for any consequences caused by falling of the lamp due to unstable hanging installation.


FIG. 2 Schematic diagram of upside-down lamps1

## 2. The control panel

### 2.1 FUNCTIONS OF BUTTONS



## Reversal of the display

To activate this function, press UP and DOWN keys simultaneously while the display is in the rest mode. This status will be memorised and maintained even for the next time it will be switched on. To return to the initial state, repeat the operation all over again.

## FIG. 3 Schematic diagram of panel keys

## USING THE MENU:

1) Press "OK" once - "Main Menu" appears on the display.
2) Use the UP and DOWN keys to select the menu to be used:

- Setup (Setup Menu): To set the setting options.
- Option (Option Menu): To set the operating options
- Informations (Informations Menu): To read the counters, software version and other information.
- Manual Control (Manual control Menu): To trigger the test and manual control functions.
- Test (Test Menu): To check the proper functionning of effects
- Advanced (Advanced Menu): Access to the "Advanced menu" is recommended for a trained technical personnel.
"Advanced" password:988

3) Press "OK" to display the first item in the selected menu.
4) Use the UP and DOWN keys to select the MENU items.

### 2.2 Menu Description

## 17 CH <br> 

FIG. 4 Schematic diagram of main menu

### 2.2.1 setting

| options | instructions |  |
| :---: | :---: | :---: |
| Run Mode | DMX | Slave status: receive DMX signal from controller or master |
|  | AUTO | Master status: auto run, send DMX signal to slave |
|  | Sound |  |
| DMX address | 1-512 | Press "OK" to enter editing mode.At this time, select hundreds and press the "up" and "Down" keys to change the address code.Press OK again to select the ten place edit. Press "OK" again to select the bits to edit. Press again to exit the edit mode |
| Device Reset | OFF |  |
|  | ON | Device Reset |
| Channel mode | 17 ch | Standard 17 channel mode |
| Language | Chinese | Set the language to Chinese |
|  | English | Set the language to English |
| Screen rotation | OFF | Positive display |
|  | ON | The screen is displayed inversely |
| Invert PAN | OFF | Invert PAN off |
|  | ON | Invert PAN open |
| Invert Tilt | OFF | Invert Tilt off |
|  | ON | Invert Tilt open |
| Pan-Tilt Swap | OFF |  |
|  | ON | Exchange pan tilt channel (include fine ) |
| Pan-Tilt encoder | OFF | Use encoder (optocoupler) to determine out of step and automatically correct position |
|  | ON | Correct position without encoder (optocoupler) |
| DMX signal | keep | Continue running as it is |
|  | clear | The motor returns to the position and stops running. |
| Linear color | OFF |  |
|  | ON | Linear color |
| Load Default |  | Press OK to see the confirmation dialog box. Press OK again to restore the default Settings |

### 2.2.1 manually

## Consistent with channel table!

### 2.2.3 factory

| The calibration | Pan | After entering the sub-interface, you can adjust the <br> reset position of the $X$ axis, Y axis and other motors to <br>  <br>  <br>  <br>  <br>  <br> compensate for errors in hardware installation. The |
| :--- | :--- | :--- |



### 2.2.4 information

| options | instructions |  |
| :--- | :--- | :--- |
| Hall state | 0000000 | 0 when magnetic is detected, 1 otherwise |
| Pan wheel step | 0000 | In the positive direction, the step value should <br> increase, in the opposite direction, the step value <br> should decrease.The same value is normal every time <br> you turn to the same point |
| Tilt wheel step | 0000 | In the positive direction, the step value should <br> increase, in the opposite direction, the step value <br> should decrease.The same value is normal every time <br> you turn to the same point |
| Authority hours | 9999 | 9999 means no encryption and can be used for a long <br> time. <br> Other values indicate the remaining use time, with <br> encryption; |

## Common error instructions

| Common error <br> messages | instructions |
| :--- | :--- |
| MT board connection <br> failed. Procedure | Motor board is not responding.The serial communication line <br> connecting the display board to the motor board is faulty, or the motor <br> board is faulty. |
| The Pan reset fails | Pan photoelectric switch, or X-axis motor or motor board problem |
| The Tilt reset fails | Tilt photoelectric switch, or Y motor or motor board problem |
| Pan Hall error | Pan axis Hall, or motor plate problem |
| Tilt Hall error | Tilt Hall, or motor plate problem |
| The color disk failed <br> to reset. Procedure | Color plate Hall, or color plate motor problem |
| Failed to reset the <br> Gobo disk | Gobo plate Hall, or Gobo plate motor problem |
| The focus reset failed | There is a problem with the focusing hall or the focusing motor |
| Bulb control failure | Failed to light or extinguish the bubble. The light lighter or bulb is faulty |

## 3. Channel function

### 3.1 The 17 channel

| CH | Detail |
| :---: | :---: |
| 1 | Pan |
| 2 | Pan fine |
| 3 | Tilt |
| 4 | Tilt fine |
| 5 | Pan tilt speed |
| 6 | Dimmer |
| 7 | Shutter/ strobe |
| 8 | Color plate |
| 10 | Fixed gobo |
| 11 | Glass gobo |
| 12 | Glass Gobo rotation |
| 13 | Focusing |
| 14 | Zoom |
| 15 | Prism |
| 16 | Prism rotating |
| 17 | Frost |
|  | Reset |

## 17 DMX Channel Details

| Channel | Function | Value | Detail |
| :---: | :---: | :---: | :---: |
| 1 | Pan | $000-255$. | Pan |
| 2 | Pan fine | $000-255$. | Pan fine |
| 3 | Tilt | $000-255$. | Tilt |
| 4 | Tilt fine | $000-255$. | Tilt fine |
| 5 | Pan tilt speed | $000-255$. | From fast to slow |


| 6 | Dimmer | 000-255. | From dark to bright |
| :---: | :---: | :---: | :---: |
| 7 | Shutter/ strobe | $\begin{aligned} & 000-003 . \\ & 004-250 . \\ & 251-255 . \end{aligned}$ | Brake light off Strobe from slow to fast Light switch open $\rightarrow$ (controlled by dimming channel) |
| 8 | Color plate | 000-002 <br> 003-005 <br> 006-008 <br> 009-011 <br> 012-014 <br> 015-017 <br> 018-020 <br> 021-023 <br> 024-026 <br> 027-029 <br> 030-032 <br> 033-035 <br> 036-038 <br> 039-041 <br> 042-044 <br> 045-047 <br> 048-050 <br> 051-053 <br> 054-056 <br> 057-059 <br> 060-159 <br> 160-205 <br> 206-255 | The white light <br> White light + color 1 <br> Color 1 <br> Color 1 plus color 2 Color 2 <br> Color 2 plus color 3 Color 3 <br> Color 3 plus color 4 Color 4 <br> Color 4 plus color 5 Color 5 <br> Color 5 plus color 6 Color 6 <br> Color 6 plus color 7 Seven colors <br> Color 7 plus color 8 Color 8 <br> Color 8 plus color 9 Color 9 <br> Color 9 + white light Color linear <br> Forward flow (from fast to slow) Reverse flow (from slow to fast) |



| 11 | Glass Gobo <br> rotation | $000-127$. <br> $128-191$. <br> $192-255$. | Angle adjustment <br> Reverse from fast to slow <br> Forward from slow to fast |
| :---: | :---: | :---: | :---: |
| 12 | Focusing | $000-255$. | Gobo clarity from far to near |
| 13 | Zoom | $000-255$. | From big to small |
| 14 | Prism | $000-127$. <br> $128-255$. | None <br> Prism |
| 15 | Prism <br> rotating | $000-127$. <br> $128-191$. <br> $192-255$. | Prism Angle adjustment <br> Reverse rotation (from fast to slow) <br> Forward rotation (from slow to fast) |
| 16 | Frost | $000-127$. <br> $128-255$. | None <br> Insert frost |
| 17 | Reset | $000-249$. <br> $250-255$. | None <br> Reset |

## 4. Common faults

In view of some common faults, the corresponding solutions are put forward.Any problems that can't be solved should be dealt with by professionals. Disconnect the power supply before servicing the lamp.

1. The light bulb not bright

- Check whether the voltage matching the lamps and lanterns is installed;
- Check whether the lamp power supply connection or control switch is in bad contact;
- Check whether electricity supply is insufficient;
- Check whether the DMX512 controller is sending instructions.

2. The lamp does not accept the control of the console after normal reset

- Check the luminaire digital start address value and function options are correct;
- Check whether the connection of communication control line is correct, communication line is too long or has been interrupted;
- Check whether the control equipment fails, check whether the serial access signal amplifier fails;
- Check whether the communication line is too long or other devices interfere with each other;
- Optimize wiring, shorten the length of control signal lines, separate high voltage and low voltage lines;
- Add signal amplifier;
- High quality shielded twisted-pair cable is used for signal cable;
- Connect the signal terminal resistor ( 120 ohms) at the end of the lamp.

3. Luminaire does not start

- Check whether the power supply parameters are consistent with the lamps;
- Check the lamps in the long-distance transportation process due to extrusion deformation, internal parts vibration, moisture and other reasons, resulting in poor contact Or fall off.
- Please check whether the inner conductor connector of the lamp falls off or loosens.
- Check the electronic components of the lamp (such as electronic transformer, PCB board, motor control board, etc.) for loosening, short circuit and burning.

4. When working, the action of $X$ or $Y$ axis of the lamp is abnormal

- Check one by one according to the previous step;
- Check whether the transmission belt corresponding to $X$ and $Y$ axis direction in the lamp falls off and breaks;
- Check whether the data feedback receiver (photocoupler) corresponding to $X$ and $Y$ directions in the lamp is damaged;
- Reboot and reset once.

