LIGHT ENGINE
USER MANUAL

MODEL: LEI-4001 .....P01-P04
LEI-8001 .....P01-P04
LEI-15001 .....P01-P04
LEI-4001DMX P05-P10
LEI-8001DMX P05-P10
LEI-15001DMX P05-P10
LEJ-4001DMX P11-P16
LEJ-8001DMX P11-P16

Packing List:

Light Engine ..... 1 Unit
Fiber Connector..... 1 PC
Remote Control..... 1 PC (Optional)
User Manual..... 1 PC
Signal Cable..... 1 PC (DMX Models Only)
Fuse..... 1 PC
Power Cord..... 1 PC

DOWNLOAD ON THE App Store

GET IT ON Google Play

CE RoHS

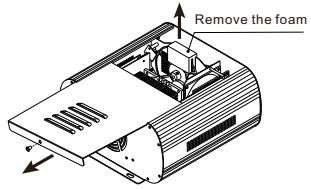
LIGHT ENGINE
USER MANUAL

Please read the User Manual carefully before operation. Our company reserves the right to interpret the contents of the Manual. The appearance of light engines of different models may vary from the above pictures. Specifications, appearance, functionality, software, etc. are subject to change without prior notice.

Please read the User Manual carefully before use. If you have any questions about the safe operation and maintenance of light engines, please contact the dealer.

Usage Guidelines

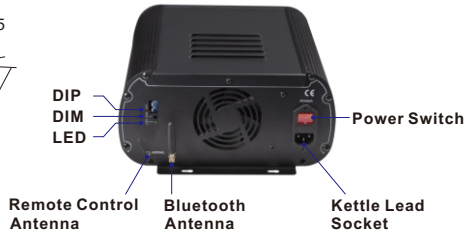
Safety Warnings:



1. The in-house foam needs to be removed before use as shown in the right picture;
2. Must be installed by a qualified professional.
3. Make sure that the power supply voltage is compatible with this light engine;
4. Prohibit use at high temperature (≤40℃);
5. Prohibit installation in a small enclosed space to avoid insufficient heat dissipation;
6. Prohibit placing in rain or humid places to prevent the risk of electric shock;
7. Prohibit looking directly at the LED module through the port of the light engine;

CHAPTER 1 LEI-4001&LEI-8001&LEI-15001

I. Dimensions of the Light Engine



II. Technical Parameters

Item No.	LEI-4001	LEI-8001	LEI-15001
Input Voltage	100V-240V AC	100V-240V AC	100V-240V AC
Power Consumption	40 W	80 W	130 W
Light Source	1-30W LED	1-55W LED	1-100W LED
Emitting Colors	White (3000/6000K)	White (3000/6000K)	White (3000/6000K)
Color Wheel	6 colors	6 colors	6 colors
LED Lifespan	50000H	50000H	50000H
Twinkle	Optional	Optional	Optional
DMX 512	×	×	×
Sound Control	×	×	×
Remote Control	Optional	Optional	Optional
BLE / 0-10V / DALI	Optional	Optional	Optional
Dimensions	L292XW274XH135 mm	L292XW274XH135 mm	L292XW274XH135 mm
Weight	4.9Kg	5.0Kg	5.3Kg
Fiber Connector Aperture	Φ20/24/28/30mm	Φ20/24/28/30mm	Φ20/24/28/30mm
Maximum Fiber Strands	Φ0.75X1250PCS	Φ0.75X1250PCS	Φ0.75X1250PCS

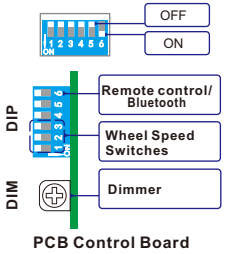
III. Light Engine Settings

1.The light engine is a regular model with the following control modes:

Working Status	Built-in Wheel Speed Control	Remote Control	DMX Controller	Sound	BLE APP
Standalone	✓	✓	×	×	✓

2.Standalone Light Engine Setup

The DIP switches 1-3 are for built-in wheel speed control. DIP switches 4-5 are vacant. The 6th switch is for the remote control. Turn on the 6th switch to enable the remote control or APP control of the light engine. (The switch pulled down is “ON”, and its flat state is “OFF”). Next to the DIP switches is the dimmer for brightness adjustment. By default, the light engine is set to the brightest.

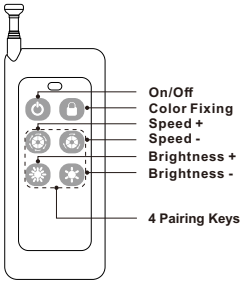


3 . Mobile APP Control

On the first page of the User Manual, there are QR codes for downloading the corresponding mobile APP. Before starting, ensure that the BLE parameter on the light engine is set to “ON ”. After downloading the APP, connect the light source device on the APP and operate. If a new mobile phone fails to connect because the light engine has already been connected to other mobile phones, press and hold the remote control button “ ☀ ”. while turning on the light engine to disconnect its Bluetooth connection. Then, search again and pair the light engine with the new mobile phone. For specific connection steps and operation control methods, please refer to the APP User Manual (available from the sales).

IV. Use of the Remote Control

1. Before using the remote control:



（1）Select the correct battery model 23A/12V and ensure it has sufficient power.

（2）The remote control needs to be paired with the light engine before use. (Factory paired ☀).

（3）After the pairing is completed, the remote control is ready for use.

（4） The light engine accepts the control of the paired remote control only.

2. How to pair the remote control with the light engine:

（1）Press and hold any of the four buttons on the remote control and turn on the light engine. When the light engine will flash 2 times slowly and 3 times quickly, the pairing is done.

（2）To disconnect the Bluetooth connection: press and hold the remote control button “ ☀ ” when the paired light engine is powered on.

3.The pairing rules of the remote control and the light engine:

（1）Each of the four buttons on the remote control can be paired with multiple light engines and will have the same effect.

（2）Each light engine can only be paired with a maximum of four buttons with different functions. These four buttons can come from different remote controls.

（3）Once the light engine is successfully paired with a remote control, the pairing function cannot be canceled, but can be overwritten.

（4）For the same light engine, the pairing button with the same function can overwrite the previous pairing button.

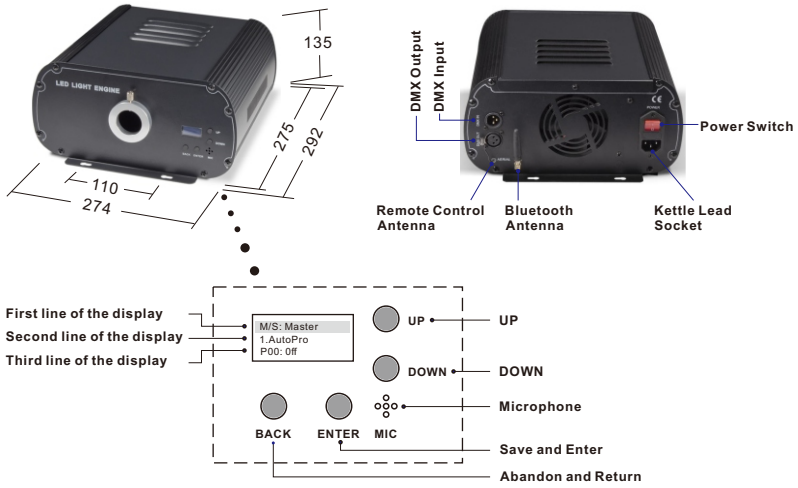
Wheel Speed Table

Built-in Speed Setup (DIP Switches 1-3)

Speed Code	DIP Switches Settings (1st to 5th)	Speed Change Effect
00		Light off, Motor stops
01		White,Blue, Green,Red,Yellow,Cyan, Fade (6RPM)
02		White,Blue, Green,Red,Yellow,Cyan, Fade (4RPM)
03		White,Blue, Green,Red,Yellow,Cyan, Fade (3RPM)
04		White,Blue, Green,Red,Yellow,Cyan, Fade (2RPM)
05		White,Blue, Green,Red,Yellow,Cyan, Fade (1.5RPM)
06		White,Blue, Green,Red,Yellow,Cyan, Fade (1RPM)
07		White,Blue, Green,Red,Yellow,Cyan, Fade (0.5RPM)

CHAPTER 2 LEI-4001DMX&LEI-8001DMX&LEI-15001DMX

I. Dimensions of the Light Engine



Display and Buttons

II. Technical Parameters

Item No.	LEI-4001DMX	LEI-8001DMX	LEI-15001DMX
Input Voltage	100V-240V AC	100V-240V AC	100V-240V AC
Power Consumption	40 W	80 W	130 W
Light Source	1-30W LED	1-55W LED	1-100W LED
Emitting Colors	White (3000/6000K)	White (3000/6000K)	White (3000/6000K)
Color Wheel	6 colors	6 colors	6 colors
LED Lifespan	50000H	50000H	50000H
Twinkle	Optional	Optional	Optional
DMX 512	√	√	√
Sound Control	√	√	√
Remote Control	Optional	Optional	Optional
BLE	Optional	Optional	Optional
Dimensions	L292XW274XH135 mm	L292XW274XH135 mm	L292XW274XH135 mm
Weight	5. 0Kg	5.2Kg	5.4Kg
Fiber Connector Aperture	Φ20/24/28/30mm	Φ20/24/28/30mm	Φ20/24/28/30mm
Maximum Fiber Strands	Φ0.75X1250PCS	Φ0.75X1250PCS	Φ0.75X1250PCS

III. Light Engine Settings

1.These light engines are DMX512 models, and can be used in two ways: either as a single independent light engine or in a Master/Slave configuration with several light engines connected together using DMX cables. The control methods under different working conditions are as follows:

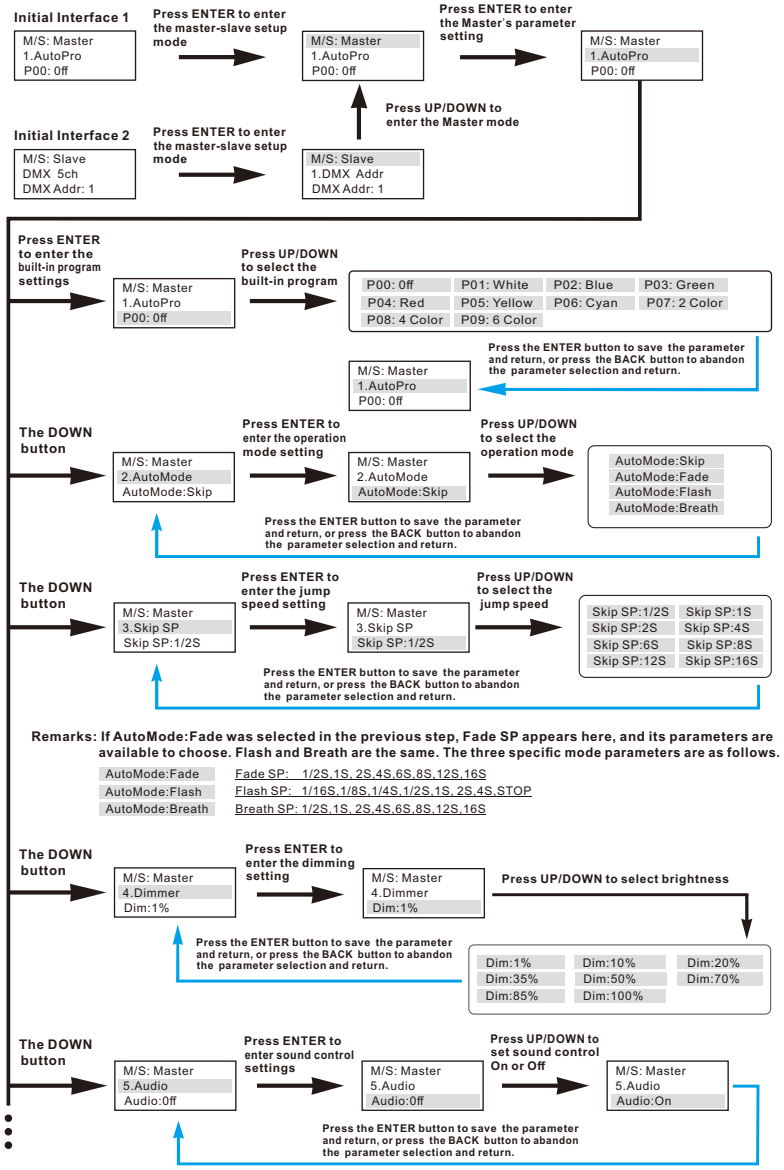
Working Status	Master/ Slave	Built-in Programs	Remote Control	DMX Controller	Sound	BLE APP
Standalone	Master	√	√	×	√	√
	Slave	×	×	√	×	×
Multiple Units in Series	Master	√	√	×	√	√
	Slave	×	×	√	×	×

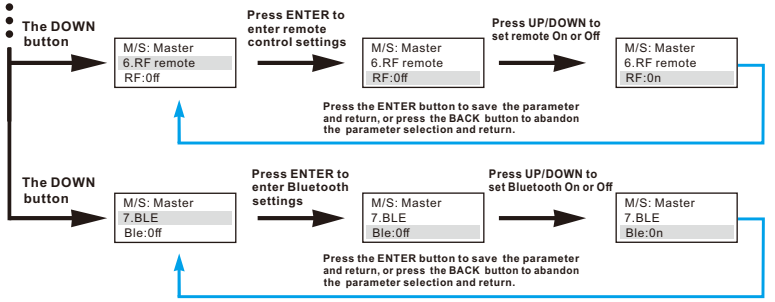
2. Operating instructions for the display and buttons

The Display	The First Line	The first-level menu: Master/Slave
	The Second Line	The second-level menu: the built-in programs or functions
	The Third Line	The third-level menu: the parameters
The Buttons	BACK	BACK: Pressing the BACK button will abandon the existing selection and return to the previous level of the menu. Pressing continuously will return to the work status display and switch between multiple pages
	ENTER	1. When no menu is selected, pressing the ENTER button will enter the first-level menu. 2. When there is a menu selected, pressing the ENTER button will: a.save the existing selection and enter the next-level menu; b.save the existing selection and return to the second-level menu when the selected menu is a third-level one.
	UP/DOWN	1.When no function or parameter is selected, pressing the UP/DOWN buttons returns to the previous operation interface. 2.When a function or parameter is selected, pressing the UP/DOWN keys cycles through the currently available function or parameter menu. Press the ENTER key to save or the BACK key to cancel.

3.The Settings of a Master light engine

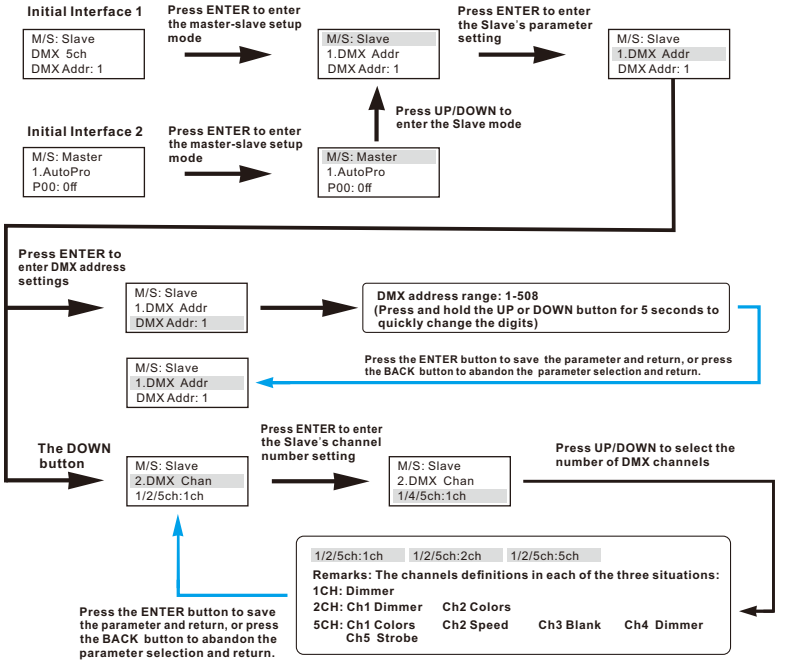
After the light engine is powered on, pressing the BACK key will have one of the following two initial interfaces appear on the OLED display.





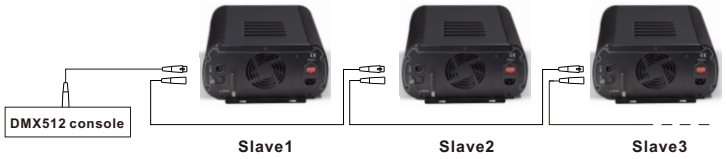
4.The Settings of a Slave light engine

After the light engine is powered on, pressing the BACK key will have one of the following two initial interfaces appear on the OLED display.



* If all light engines operate synchronously, the DMX address of all slave machines should always be set as “1”.
* If each machine needs to be individually programmed and controlled using a DMX512 console, the DMX address of the first Slave machine should be 1. The second one needs to be 6 (the channels number plus 1), and the third needs to be 11 and so on

5.Connection diagram of Slave light engines when there is a DMX console or controller.



6.Connection diagram of light engines in Master and Slave Control Mode.

IV. Use of the remote control:

1. Before using the remote control:

(1) There is a ON/OFF switch on the right side of the remote control, which needs to be pulled to the “ON” state (pulled upward).

(2) Select the correct battery model 23A/12V and ensure it has sufficient power.

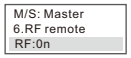
(3) The remote control needs to be paired with the light engine before use (Factory paired).

(4) After the pairing is completed, the remote control is ready for use.

(5) The light engine accepts the control of the paired remote control only.

2. How to pair the remote control with a light engine:

(1) Set the light engine to be a Master, and turn on the remote control function in the display. The display is as shown on the right.



(2) Press and hold any of the three pairing buttons on the remote control and turn on the light engine. When the light engine will flash 2 times slowly and 3 times quickly, the pairing is done.

3.The pairing rules of the remote control and the light engine:

(1) The three buttons on the bottom of the remote control are the pairing buttons.

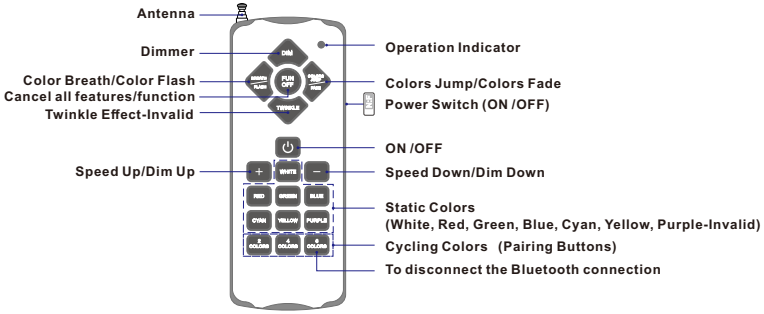
(2) Each of the three buttons can be paired with multiple light engines and will have the same effect.

(3) Each light engine can only be paired with a maximum of three buttons with different functions. These three buttons can come from different remote controls

(4) Once the light engine is successfully paired with a remote control, the pairing function cannot be canceled, but can be overwritten.

(5) For the same light engine, the pairing button with the same function can overwrite the previous pairing button.

4. Remote control button function description:



Remarks:

(1) Operation overview: Please always operate the remote control in the following order. Firstly, choose colors; secondly, choose a function/feature; thirdly, press ”+” or “-” to adjust.

(2) Breath/Flash button: For single and cycling colors, press it to select one of the Breathing and Flashing features, and press it again to select the other. Then press the “+” or “-“ button to adjust the color Breathing/Flashing rate.

(3) Colors Jump/Fade button: For cycling colors, press it to select one of the Jumping and Fading features, and press it again to select the other. Then press the ”+” or “-” button to adjust the colors Jumping or Fading rate.

(4) DIM button: Press it and the light engine will automatically output medium or full brightness according to its current brightness value. Then press the “+” or “-” button to dim up or down the light engine

(5) Twinkle button: Press it, and the light engine will automatically output a medium/full speed according to the current wheel speed value. Then press the “+” or “-” button to change the twinkling rate.

(6) When FUN OFF is pressed, the light engine will emit single or cycling colors (Jump/Fade) with no other features.

(7) The remote control can work alone or together with the APP and/or the OELD display buttons.

(8) The light engine has a memory function. When it shuts down or loses power during normal operation, the machine will automatically resume the last program on restart.

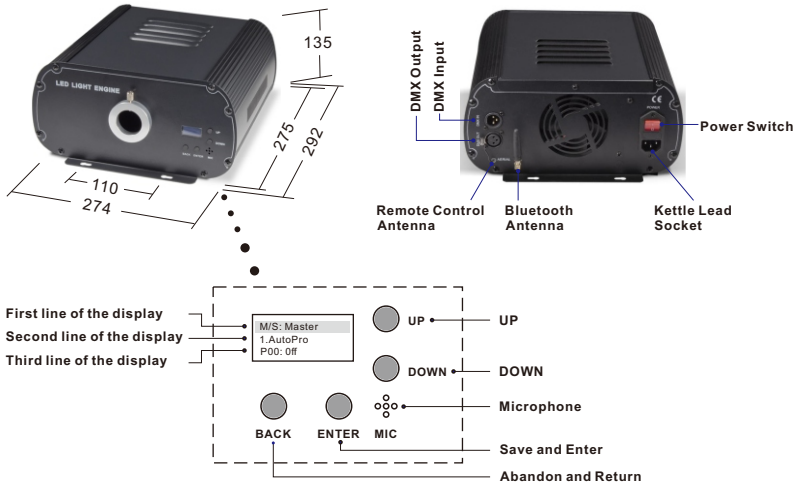
(9) To disconnect the Bluetooth connection: press and hold the remote control button “ 3 COLORS ” when the paired light engine is powered on.

V . Mobile APP Control

On the first page of the User Manual, there are QR codes for downloading the corresponding mobile APP. Before starting, ensure that the BLE parameter on the light engine is set to “ON”. After downloading the APP, connect the light engine on the APP and operate. If a new mobile phone fails to connect because the light engine has already been connected to other mobile phones, press and hold the remote control button“ 3 COLORS ” while turning on the light engine to disconnect its Bluetooth connection. Then search again and pair the light engine with the new mobile phone. For specific connection steps and operation control methods, please refer to the APP User Manual (available from the sales).

CHAPTER 3 LEJ-4001DMX&LEJ-8001DMX

I. Dimensions of the Light Engine



Display and Buttons

II. Technical Parameters

Item No.	LEJ-4001DMX	LEJ-8001DMX
Input Voltage	100V-240V AC	100V-240V AC
Power Consumption	55 W	85 W
Light Source	1-30W	1-55W
Emitting Colors	White (3000/6000K)	White (3000/6000K)
Color Wheel	6 colors	6 colors
LED Lifespan	50000H	50000H
Twinkle	√	√
DMX 512	√	√
Sound Control	√	√
Remote Control	Optional	Optional
BLE	Optional	Optional
Dimensions	L292XW274XH135 mm	L292XW274XH135 mm
Weight	5. 3Kg	5.5Kg
Fiber Connector Aperture	Φ20/24/28/30mm	Φ20/24/28/30mm
Maximum Fiber Strands	Φ0.75X1250PCS	Φ0.75X1250PCS

III. Light Engine Settings

1.These light engines are DMX512 models, and can be used in two ways: either as a single independent light engine or in a Master/Slave configuration with several light engines connected together using DMX cables. The control methods under different working conditions are as follows:

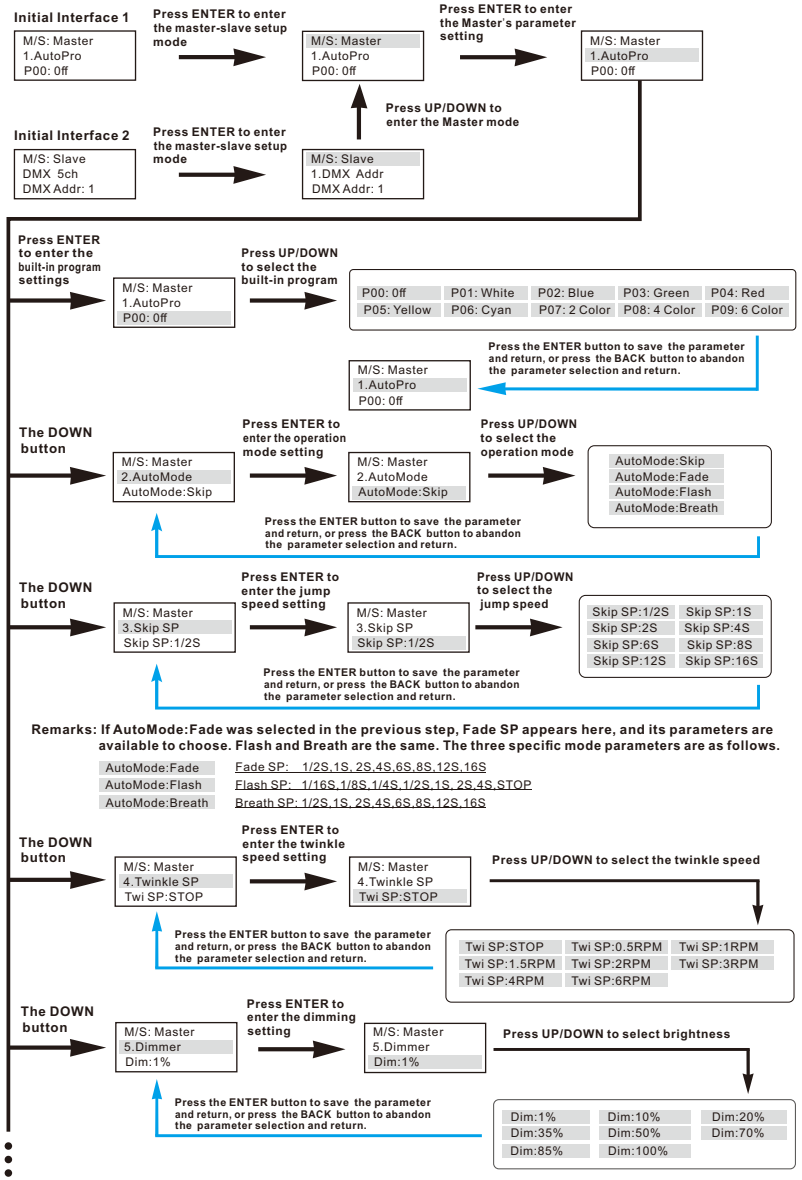
Working Status	Master/ Slave	Built-in Programs	Remote Control	DMX Controller	Sound	BLE APP
Standalone	Master	√	√	×	√	√
	Slave	×	×	√	×	×
Multiple Units in Series	Master	√	√	×	√	√
	Slave	×	×	√	×	×

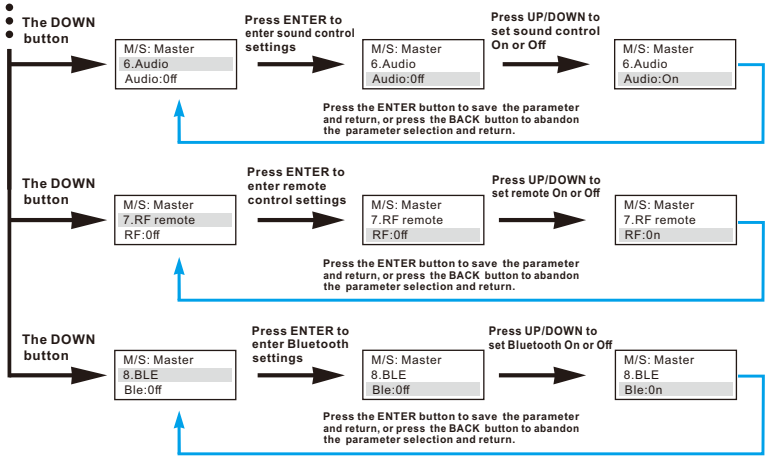
2. Operating instructions for the display and buttons

The Display	The First Line	The first-level menu: Master/Slave
	The Second Line	The second-level menu: built-in programs or functions
	The Third Line	The third-level menu: the parameters
The Buttons	BACK	BACK: Pressing the BACK button will abandon the existing selection and return to the previous level of the menu. Pressing continuously will return to the work status display and switch between multiple pages
	ENTER	1. When no menu is selected, pressing the ENTER button will enter the first-level menu. 2. When there is a menu selected, pressing the ENTER button will: a.save the existing selection and enter the next-level menu; b.save the existing selection and return to the second-level menu when the selected menu is a third-level one.
	UP/DOWN	1.When no function or parameter is selected, pressing the UP/DOWN buttons returns to the previous operation interface. 2.When a function or parameter is selected, pressing the UP/DOWN keys cycles through the currently available function or parameter menu. Press the ENTER key to save or the BACK key to cancel.

3.The Settings of a Master light engine

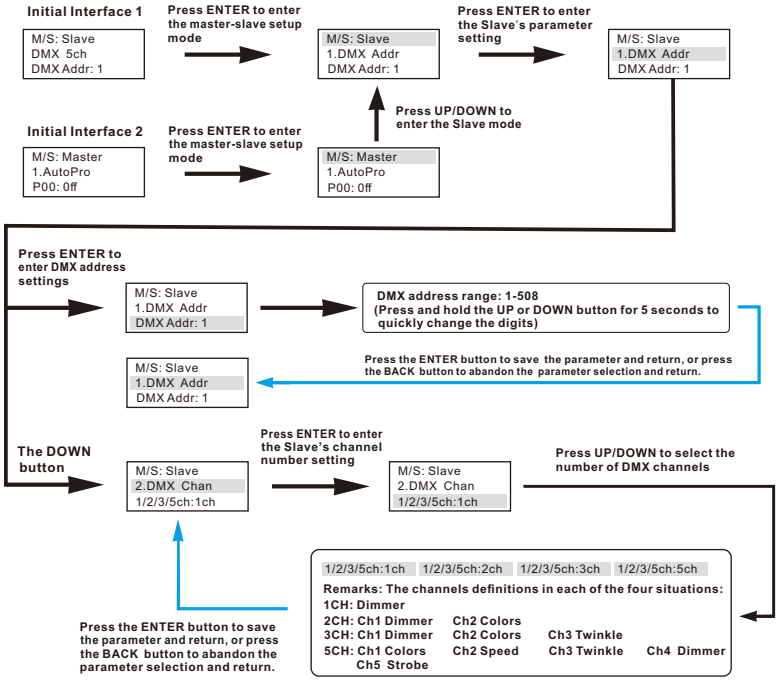
After the light engine is powered on, pressing the BACK key will have one of the following two initial interfaces appear on the OLED display.





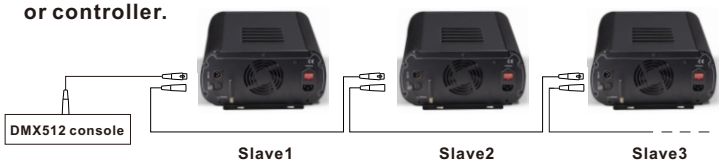
4.The Settings of a Slave light engine

After the light engine is powered on, pressing the BACK key will have one of the following two initial interfaces appear on the OLED display.



* If all light engines operate synchronously, the DMX address of all slave machines should always set as “1”.
* If each machine needs to be individually programmed and controlled using a DMX512 console, the DMX address of the first Slave machine should be 1. The second one needs to be 6 (the channels number plus 1), and the third needs to be 11 and so on

5.Connection diagram of Slave light engines when there is a DMX console or controller.



6.Connection diagram of light engines in Master and Slave Control Mode.

IV. Use of the remote control:

1. Before using the remote control:

(1) There is a ON/OFF switch on the right side of the remote control, which needs to be pulled to the “ON” state (pulled upward).

(2) Select the correct battery model 23A/12V and ensure it has sufficient power.

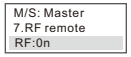
(3) The remote control needs to be paired with the light engine before use (Factory paired).

(4) After the pairing is completed, the remote control is ready for use.

(5) The light engine accepts the control of the paired remote control only.

2. How to pair the remote control with a light engine:

(1) Set the light engine to be a Master, and turn on the remote control function in the display. The display is as shown on the right.



(2) Press and hold any of the three pairing buttons on the remote control and turn on the light engine. When the light engine will flash 2 times slowly and 3 times quickly, the pairing is done.

3.The pairing rules of the remote control and the light engine:

(1) The three buttons on the bottom of the remote control are the pairing buttons.

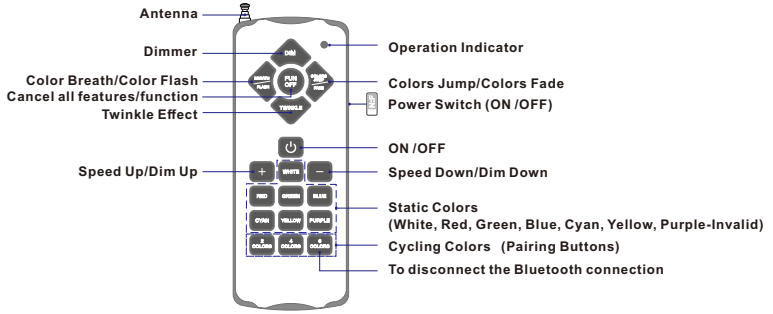
(2) Each of the three buttons can be paired with multiple light engines and will have the same effect.

(3) Each light engine can only be paired with a maximum of three buttons with different functions. These three buttons can come from different remote controls

(4) Once the light engine is successfully paired with a remote control, the pairing function cannot be canceled, but can be overwritten.

(5) For the same light engine, the pairing button with the same function can overwrite the previous pairing button.

4. Remote control button function description:



Remarks:

(1) Operation overview: Please always operate the remote control in the following order. Firstly, choose colors; secondly, choose a function/feature; thirdly, press ”+” or “-” to adjust.

(2) Breath/Flash button: For single and cycling colors, press it to select one of the Breathing and Flashing features, and press it again to select the other. Then press the “+” or “-“ button to adjust the color Breathing/Flashing rate.

(3) Colors Jump/Fade button: For cycling colors, press it to select one of the Jumping and Fading features, and press it again to select the other. Then press the ”+” or “-” button to adjust the colors Jumping or Fading rate.

(4) DIM button: Press it and the light engine will automatically output medium or full brightness according to its current brightness value. Then press the “+” or “-” button to dim up or down the light engine

(5) Twinkle button: Press it, and the light engine will automatically output a medium/full speed according to the current wheel speed value. Then press the “+” or “-” button to change the twinkling rate.

(6) When FUN OFF is pressed, the light engine will emit single or cycling colors (Jump/Fade) with no other features.

(7) The remote control can work alone or together with the APP and/or the OELD display buttons.

(8) The light engine has a memory function. When it shuts down or loses power during normal operation, the machine will automatically resume the last program on restart.

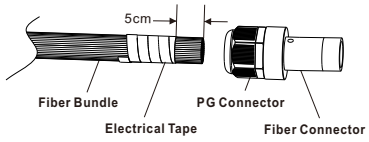
(9) To disconnect the Bluetooth connection: press and hold the remote control button “ 8 COLORS ” when the paired light engine is powered on.

V . Mobile APP Control

On the first page of the User Manual, there are QR codes for downloading the corresponding mobile APP. Before starting, ensure that the BLE parameter on the light engine is set to “ON”. After downloading the APP, connect the light engine on the APP and operate. If a new mobile phone fails to connect because the light engine has already been connected to other mobile phones, press and hold the remote control button“ 8 COLORS ” while turning on the light engine to disconnect its Bluetooth connection. Then search again and pair the light engine with the new mobile phone. For specific connection steps and operation control methods, please refer to the APP User Manual (available from the sales).

CHAPTER 4 Fiber Bundle Assembly and Installation

1.Fiber connectors/couplings assembly

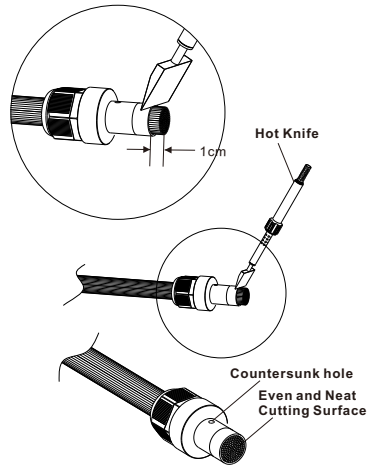


Step A:

Cut the fiber strands to the desired length. Bundle one end together and make the surface flush. Tighten the bundle with an electrical tape at 5cm away from the end. Loosen the nut on the PG connector, insert the harness end into it. For the sheathed fiber cables, peel off the sheath 10cm before the assembly.

Remarks:

The fiber bundle needs to match the fiber connector in size. If the port aperture is bigger than the bundle, insert dead fiber strands into the fiber connector to make it full.Make sure that the fiber strands are straight in the fiber connector, which is better for light output.



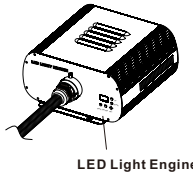
Step B:

1.Push the fiber bundle 1cm out of the fiber connector, and fasten the nut of the PG connector.

2.Heat the hot knife to about 250 degree Celsius. Hold the hot knife firmly and cut the fiber bundle flush with the fiber connector. The angle between the hot knife and the fiber port is suggested to be 25-30 degrees as shown in the left pictures

Remarks:

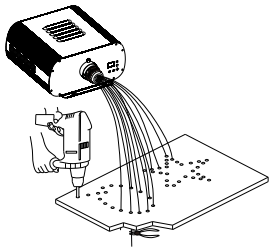
If the fiber bundle is not cut well, for example, the surface is not even, not neat, or in other bad conditions, loosen the nut and push the fiber bundle 1cm out of the connector again, and repeat the cutting procedure.



Step C:

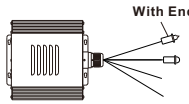
Loosen the screw on the light engine port ferrule, and insert the ready fiber connector into the ferrule. Then tighten the screw against the countersunk hole on the fiber connector.

2. Fiber strands installation on ceilings



1. Drill holes on the ceiling as required by the pattern. Insert the fiber strands into the holes and glue them with the resin adhesive. Cut the fiber ends flush with the ceiling or leave 2-3mm protrusion.

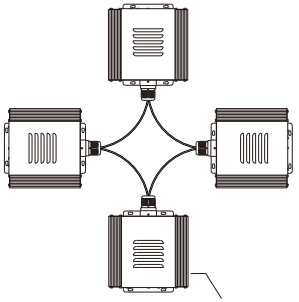
2. The fiber strands cannot be folded in half, and the bending radius should not be less than 10 times of its diameter.



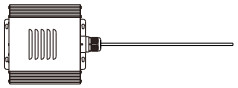
Fiber tail ends can be mounted with end fittings to present more optical effects.

3.Side-glow fiber cable connection method

Multi Sets Double Ends Lighting



Single End Lighting



Double Ends Lighting