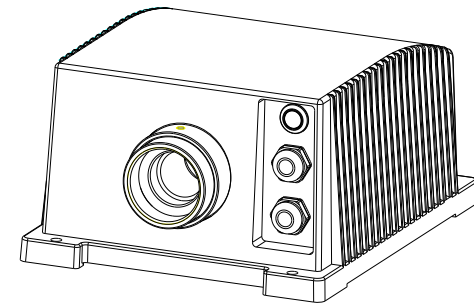


LIGHT ENGINE USER MANUAL

MODEL:LES-2001DMX/WP



Accessories:

- Fiber Connector1 PC
- Wireless Remote Controller.....1 PC (Optional)
- User Manual1 PC
- Signal Cable1 PC (for DMX machine only)



**ISO9001:2000
CERTIFIED**

LIGHT ENGINE USER MANUAL

Welcome to use LES series of professional light engines. Please read the manual carefully before turning on the light engine. If you have any questions concerning the operation or maintenance, please contact your wholesaler.

Safety Instruction

1. Make sure the Light Engine and Power Source have the same voltage;
2. Mounting on the ground with standing water is forbidden;
3. Avoid to work at high ambient temperature (> 50°C)

CHAPTER 1 LES-2001DMX/WP

I . Technical Data

Power:	20W
Voltage:	12V DC
Color Wheel:	6 colors
Light Source:	1-15W LED
Life of LED :	50000H
IP Rating :	IP65
Size:	188×152×92mm ³
Gross Weight:	1.6Kg
Standard Aperture:	Φ 14mm/Φ 18mm/Φ 22mm (Optional: Φ 24mm Max)

II . Installation dimension of light engine (see Fig.1):

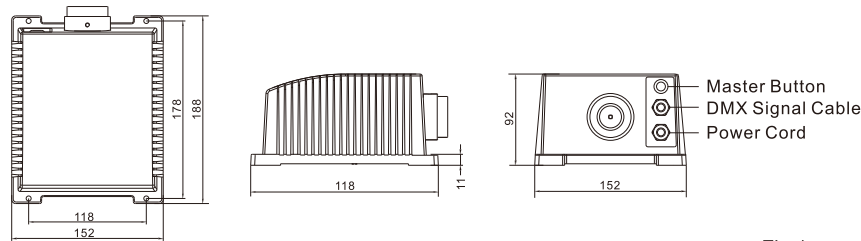


Fig.1

Instructions for installing the light engine (see Fig.2):

a. Suggested ways of mounting:

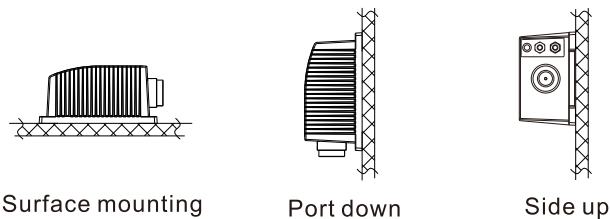


Fig.2

b. Wrong ways of mounting (see Fig.3):

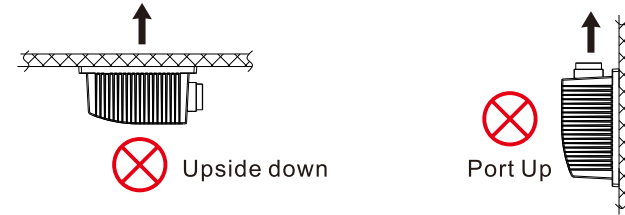


Fig.3

III. Light engine set up

Light engine control

a. Single unit:

When a single light engine is running, press the "Master Button" (refer to Figure 4), and use the remote control to control the unit.

b. When multiple units work synchronously, the light engines' settings are as follows:

- (1) Pick up one light engine with the remote control function and turn on the unit. Press the "Master Button" and keep it on.
- (2) The "Master Button" of other units in the group remains as "OFF"
- (3) Use the remote control to control the light engine of which the "Master Button" is "ON", all units in the group will work synchronously.

*** In this group of light engines, there should be only one unit with its "Master Button" on.**

c. When a DMX512 console is connected to a group of units, the light engines' settings are as follows:

- (1) The "Master Button" of all light engines remains as "OFF". Now the DMX address of all units is "001" by default.
- (2) Control the light engines through the DMX512 console;
- (3) If each light engine needs to have a different DMX address other than "001", please refer to "The remote control" for DMX address settings.

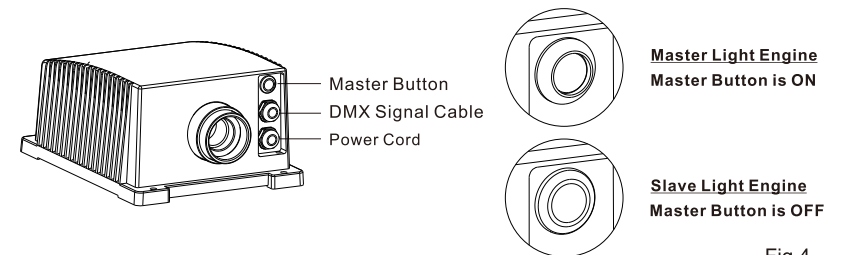


Fig.4

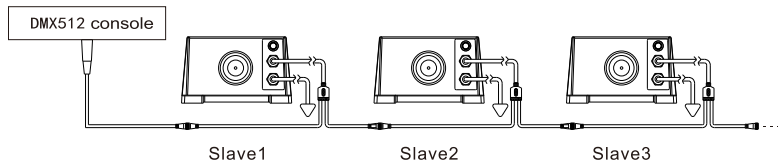
d. Number of DMX channels and corresponding function:

CH1: 6 colors; CH2: speed motor; CH3: NA; CH4: dimming + strobe

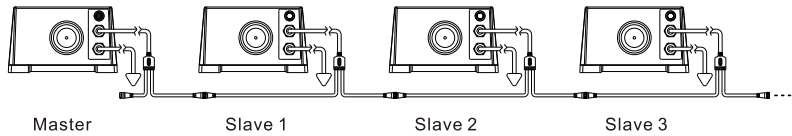
Note: CH2 is linked with CH1, and it is valid when the value of CH1 is 0-127.

Usually CH2 is used in the DMX console programming.

e. The connection diagram when a DMX512 console is connected.



f. The connection diagram of multiple units for synchronous effect.




g. Connection diagram of DMX signal cable:

Signal cable should be 3X0.5mm² cable.



IV. The remote control:

a. Before using the remote control:

- (1) Make sure that the remote control has the battery, which has enough power.
- (2) The remote control needs to be paired with the light engine before use.
- (3) The light engine and the remote control have already been paired by default, and the pairing key is .
- (4) After the pairing, the remote control is ready for use.
- (5) The light engine only accepts the control of the paired remote control.

b. How to pair the remote control and the machine:










- (1) Press and hold one of the four pairing keys on the remote control. (Figure 5) 
- (2) Turn on the light engine, and the machine starts to match.
- (3) When the light engine flashes 3 times, the pairing is complete. If not, turn off the unit and repeat Step (2) till the light engine flashes 3 times.
- (4) After the pairing, release the pairing key.
- (5) The light engine and the remote control are ready to work.

Fig.5












c. The pairing rule of the remote control and the light engine:

- (1) The four keys in the last row of the remote control,     are the four Pairing Keys.
- (2) Each Pairing Key can be paired with multiple light engines and will have the same control effect.
- (3) Each light engine can be paired with at most four different Pairing Keys, namely     respectively. These four Pairing Keys with different icons can come from different remote controls.

- (4) Once the device is successfully paired with the remote control, the pairing function cannot be canceled, but can be overwritten.
- (5) For a light engine, the pairing key on a new remote control can overwrite the previous one with the same icon.
- (6) The light engine can be paired no matter it is a master or a slave unit.

d. DMX address settings with a remote control.

When the DMX console is connected to a group of light engines, each unit could have a new DMX address other than “001” if needed. Each single unit should set up the DMX address separately.

- (1) Disconnect the light engine from the DMX signal cable. Turn on the unit and keep the “Master Button” as off.
- (2) Press the key  for 3S to enter the DMX address edit mode, and the light engine will flash 3 times;
- (3) Press the DMX address key (          stand for digits of 1,2,3,4,5,6,7,8,9,0 respectively. See Figure 6) to input the address. The light engine will flash after each press.
- (4) The DMX address is a combination of 3 digits, such as: 001, 005, 009, ...505, each incremented by 4. After receiving 3 digits, the light engine will have long flash twice. The DMX address setting is successful, and the light engine will automatically save the setting and exit the edit mode.
- (5) If no key is pressed for more than 10 seconds or an invalid key (not a numeric key) is pressed during the setting, the light engine will have short flash twice and exit the edit mode. The setting fails.

The DMX address setting key corresponds to the digit as follows:

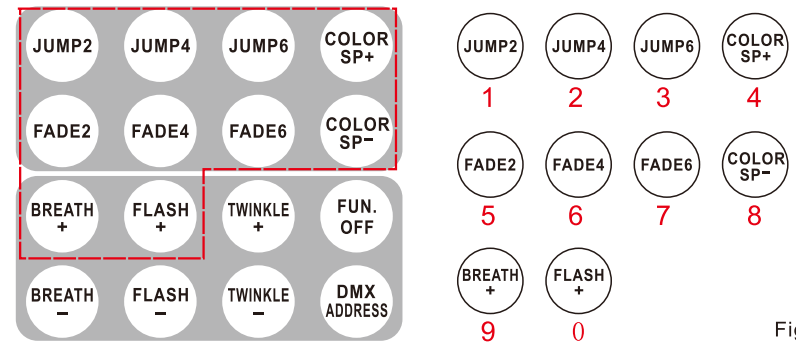
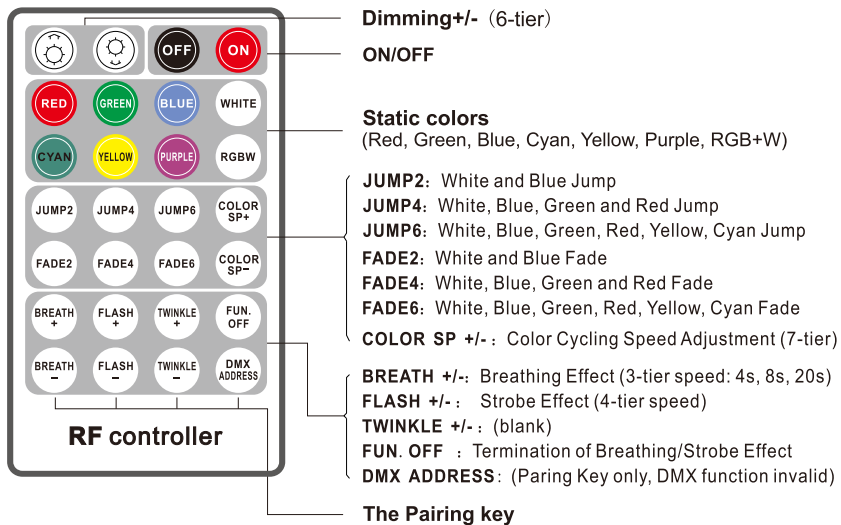


Fig.6



Note:

1. Press “BREATH” or “FLASH” key when the light engine works, the machine will run the effect of fading or strobe at the particular color when pressing. If "FUN.OFF" is pressed, the current breathing or strobe effect will be cancelled and the program before will be restored.
2. After turned on, the light engine will automatically run the program which was on when it was powered off.

Chapter 2 Installation of Fiber Optic

I . Connecting the fiber optic with Light Engine:

Solid core fiber optic cable(See Fig. 7):

- (1) Cut the fiber to the specified length. The cross section should be vertical to the fiber and keep clean and smooth.
- (2) Peel off 50-100mm of the PVC jacket of the fiber optic cable (not necessary if there is no PVC jacket). Be careful not to hurt the fiber optic cable.
- (3) Unscrew the PG Connector and insert the fiber optic cable into the PG Connector and Fiber Connector until the end of the cable is flush with the Fiber Connector. Screw tightly the PG Connector.
- (4) Insert the finished Fiber Connector into the Fixing Flange, screw tightly the screw.

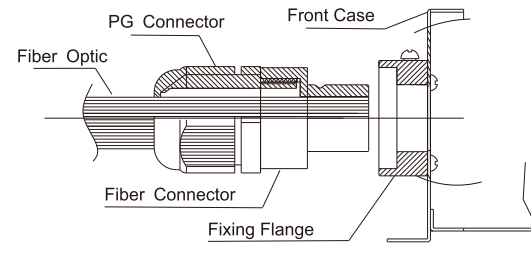


Fig. 7

II . Installation of the end part of the Multi-String fiber optic:

- (1) Drill holes on the installing board according to the design. Then insert the fiber optic string into holes and fix it with epoxy glue. Trim the end of the fiber string to be flush with the board or at a required length. Fasten the other end of the fiber string to a harness and insert the harness into PG Connector and Fiber Connector. Apply the hot knife to cut fiber end flush with the Fiber Connector. (See Fig. 8).
- (2) Insert the finished Fiber Connector into the Fixing Flange and screw tightly the screw.

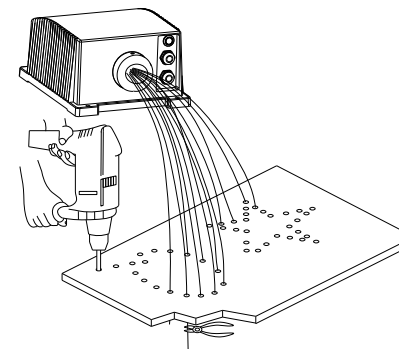


Fig. 8