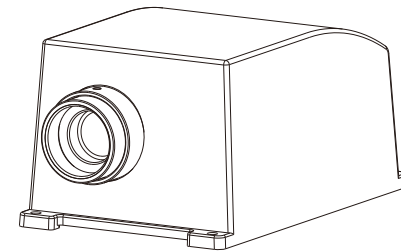


LIGHT ENGINE USER MANUAL

MODEL:LET-2001DMX



Accessories:

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



**ISO9001:2000
CERTIFIED**

LIGHT ENGINE USER MANUAL

Welcome to use LET series of professional light engine. 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. Keep out of rain or moist area to avoid shock hazards;
3. Avoid to work in high ambient temperature ($>40^{\circ}\text{C}$);

CHAPTER 1 LET-2001DMX

1. Technical Data

Voltage:	12V DC
Power:	20W
Color Wheel:	6 colors
Light Source:	1-15W LED
Life of LED :	50000H
Size:	$182 \times 115 \times 90\text{mm}^3$
Gross Weight:	0.8Kg
Standard Aperture:	$\Phi 14\text{mm} / \Phi 18\text{mm} / \Phi 22\text{mm}$

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

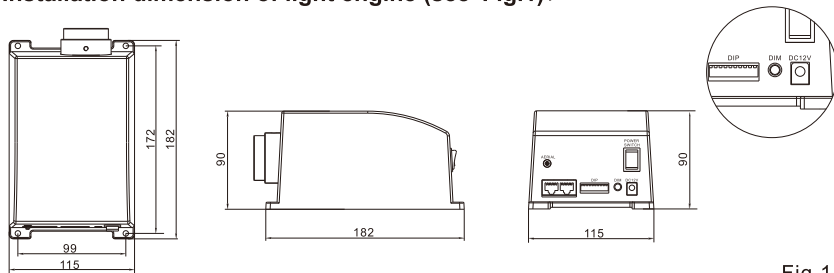


Fig.1

3. Light Engine Setup:

Light engine control:

- a. When a single light source is running by itself or controlled by a remote control, it should be set as the master machine.
- b. When multiple light engines of the same model are connected into a group, the light engines can be set as either slave or master machine as follows:

- (1) When a DMX512 console is connected to the group, all light engines should be set up as the slave machines and will follow the program run in the console.

Chapter 2 Installation of Fiber Optic

1. Connecting the fiber optic with Light Engine:

Solid core fiber optic cable(See Fig. 1):

- (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.

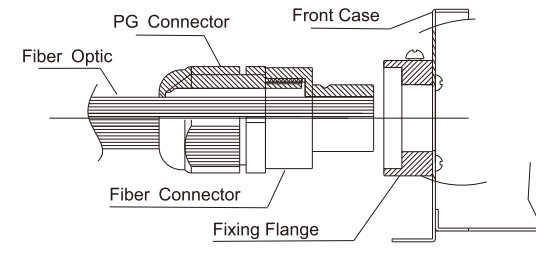


Fig. 1

2. 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.2).
- (2) Insert the finished Fiber Connector into the Fixing Flange and screw tightly the screw.

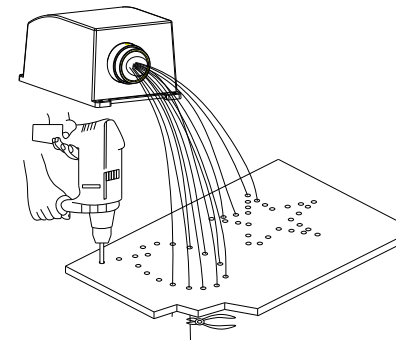
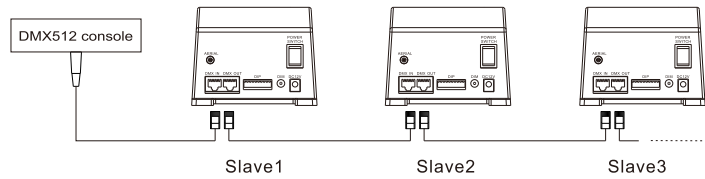
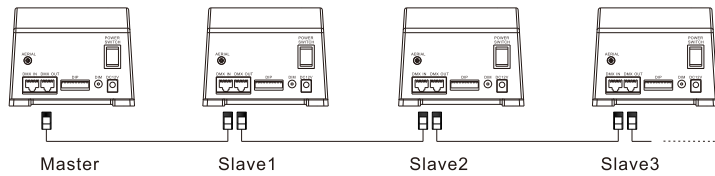


Fig. 2

g. The connection diagram of the light engines when there is a DMX console connected:

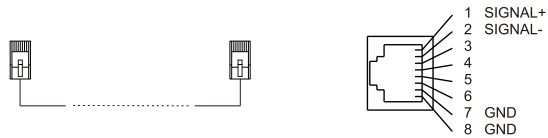


h. The connection diagram of the light engines when the group runs the master-slave control mode:



i. Connection diagram of DMX signal cable:

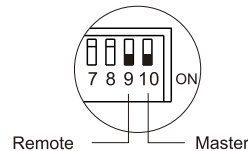
The signal cable adopts RJ45 shielded wire (i.e. network cable).



4. The remote control:

a. Before using the remote control:

- (1) Make sure that the remote control has the battery, which has enough power.
- (2) Make sure that the DIP SW9 and SW10 on the light engine are at the ON position.
- (3) The remote control needs to be paired with the light engine before use.
(It has been paired with by default).
- (4) After the pairing is completed, 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 any one of the four pairing keys on the remote control. (Picture 7)
- (2) Turn on the power of the light engine, and the machine starts to work.
- (3) The green indicator next to the DIP switches will flash 2 times slowly and 3 times quickly.
- (4) The remote control and the machine are successfully paired.
- (5) Release the pairing key.

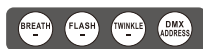
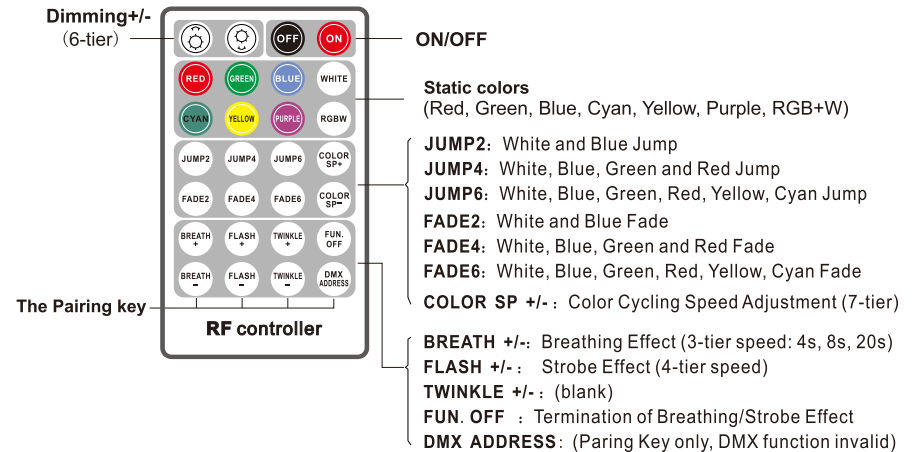


Fig.7

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 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 the same light engine, the pairing key with the same icon can overwrite the previous pairing key.
- (6) The light engine can be paired no matter it is a master or a slave machine.



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 before it is powered off.
3. Both the dimming knob on the light engine and the dimming button on the remote control can adjust the brightness. They are effective at the same time, and the dimming effects will be superimposed. For example, to set the light engine the brightest, both the dimming knob and the dimming button need to be adjusted/pressed to the maximum.

Attached Table :

PRG NO.	DIP SWITCH(1=ON, 0=OFF)										FUNCTION
	1	2	3	4	5	6	7	8	9	10	
00	0	0	0	0	0	0	0	0	0	0	No Light
01	1	0	0	0	0	0	0	0	0	1	White
02	0	1	0	0	0	0	0	0	0	1	Blue
03	1	1	0	0	0	0	0	0	0	1	Green
04	0	0	1	0	0	0	0	0	0	1	Red
05	1	0	1	0	0	0	0	0	0	1	Yellow
06	0	1	1	0	0	0	0	0	0	1	Sky-Blue
07	1	1	1	0	0	0	0	0	0	1	W, B, G, R, Y, Sky-B Skip (2s)
08	0	0	0	1	0	0	0	0	0	1	W, B, G, R, Y, Sky-B Skip (4s)
09	1	0	0	1	0	0	0	0	0	1	W, B, G, R, Y, Sky-B Skip (8s)
10	0	1	0	1	0	0	0	0	0	1	6 colors fade (0.5RPM)
11	1	1	0	1	0	0	0	0	0	1	6 colors fade (1.0RPM)
12	0	0	1	1	0	0	0	0	0	1	6 colors fade (1.5RPM)
13	1	0	1	1	0	0	0	0	0	1	6 colors fade (2RPM)
14	0	1	1	1	0	0	0	0	0	1	6 colors fade (3RPM)
15	1	1	1	1	0	0	0	0	0	1	6 colors fade (4RPM)
16	0	0	0	1	1	0	0	0	0	1	6 colors fade (6RPM)
17	1	0	0	0	1	0	0	0	0	1	White, Blue Skip (2s)
18	0	1	0	0	1	0	0	0	0	1	White, Blue Skip (4s)
19	1	1	0	0	1	0	0	0	0	1	White, Blue Fade (1RPM)
20	0	0	1	0	1	0	0	0	0	1	White, Blue Fade (2RPM)

(2) When there is no DMX512 console connected, the group must run the master & slave mode: one and only one light engine is set as the master machine, and the rest are set as the slave machines. In the group, all the slave machines run the program following the master machine.

c. The master and slave machine setup through the DIP switch (1=ON, 0=OFF)
Master light engine: the 10th DIP Switch SW10 is ON

When the SW10 is ON (master machine status), SW1-SW5 represent the built-in program, SW6-SW8 are invalid, and SW9 is used to turn on and off the remote control function. (Picture 2)

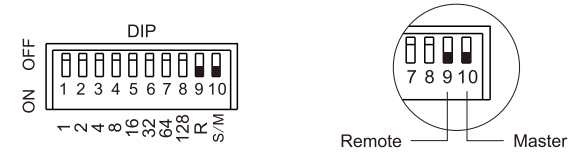


Fig.2

Slave Light engine: the 10th DIP switch SW10 is OFF

- (1) When SW10 is OFF (slave machine state), SW1-9 are used to indicate the DMX address, and the remote control function is invalid.
- (2) When all the slave machines have the same DMX address of 001 (shown in Figure 5), they will work synchronously with the master machine.
- (3) The Slave machines could also have an increasing DMX address by 4, for example, 001, 005, 009...when there is a DMX console connected, or 005, 009, 013...when the group runs the master-slave mode. As such, all light engines will run the program with a scrolling effect.

DIP switch settings (Figure 6)

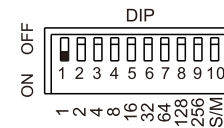


Fig.5

DMX add.	DIP Switch									
	1	2	3	4	5	6	7	8	9	10
001	1	0	0	0	0	0	0	0	0	0
002	0	1	0	0	0	0	0	0	0	0
003	1	1	0	0	0	0	0	0	0	0
004	0	0	1	0	0	0	0	0	0	0
005	1	0	1	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---
009	1	0	0	1	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---
013	1	0	1	1	0	0	0	0	0	0

Fig.6

d. DMX address calculation:

For example: DMX address 009=8(4)+1(1), 013=8(4)+4(3)+1(1)

e. The dimming knob:

The knob (see installation diagram) has been adjusted to the maximum by default. Turning the knob left and right could adjust the brightness of the light engine.

f. 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.