

LIGHT ENGINE USER MANUAL

MODEL:

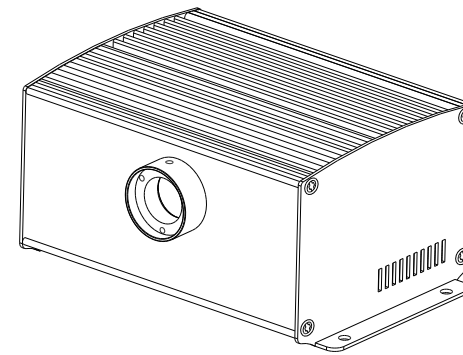
LEB - 431 / LEB-432

LEB - 431DMX / LEB-432DMX

LEE - 431DMX / LEF-432DMX

Accessories:

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



**ISO9001:2000
CERTIFIED**

LIGHT ENGINE USER MANUAL

Welcome to use LEB, LEE & LEF series of professional light engine. Please read the manual carefully before using 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 use at high ambient temperature ($>40^{\circ}\text{C}$);

CHAPTER 1 LEB-431 / LEB-432

1. Technical Data

Voltage: 12V DC
 Power: 8W/14W
 Color: RGBW
 LED: 1-4X3W/2-4X3W
 LED Life: 50000H
 Standard Aperture: Φ 14mm (Optional: Φ 17.3mm Max)

2. Installation

The installation dimension of Light Engine and rear panel (Fig. 1)

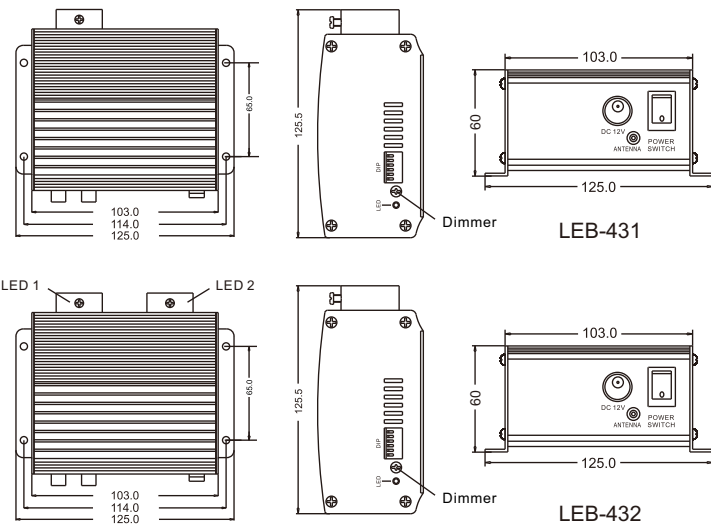


Fig.1

3. Installation of the fiber optic (Fig.2)

- (1) Cut fibers to the specified length. If it is of multi-string fiber, you need to peel off 5-10cm PVC jacket carefully and avoid hurting the inner fiber;
- (2) Collect all fibers in one bundle and tightly enlace at the 10cm location from one end with tape. Insert the fiber bundle into the PG connector and fiber connector, and fasten the PG connector. Cut the fibers flush with the fiber connector with hot knife;
- (3) Insert the finished fiber connector into the fixing flange and fasten the screw tightly;
- (4) The installation of the end part of the fiber optic:

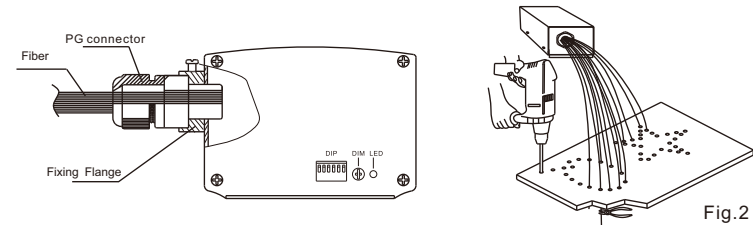


Fig.2

4. Light Engine Setup:

- (1) DIP switches: SW1~SW5 for programs selection, please see Attached Table (1=ON, 0=OFF). SW6 for remote controller; (see fig. 3)
- (2) Calculation of DIP address code:
 e. g. $003=2(2)+1(1)$, $005=4(3)+1(1)$
- (3) Using of Wireless Remote Controller:
 Set SW6 as "ON", and the remote controller starts to work. Button "🔒" is for color selection, button "🔌" for power on/off, and button "☀️" "🌑" used for brightness adjustment. (6 levels) (See Fig. 4)

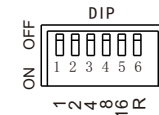
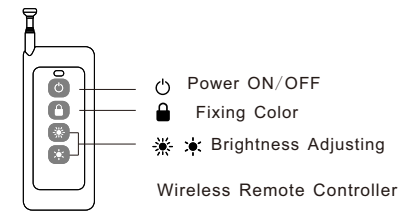


Fig. 3



RC-04

Fig. 4

Notice:

1. You could only control the motor to be on and off through "🔌" button. If you want to have different color-change speed, please use DIP switch.
2. The dimmer on the rear panel is used for brightness adjustment by hand. The factory default is 100% brightness, and there are 6 levels of brightness in total.

Attached Table :

Pro.NO	DIP On (1 is ON,0 is OFF)						FUNCTION
	1	2	3	4	5	6	
00	0	0	0	0	0	0	NO Light
01	1	0	0	0	0	1	White
02	0	1	0	0	0	1	Blue
03	1	1	0	0	0	1	Purple
04	0	0	1	0	0	1	Red
05	1	0	1	0	0	1	Yellow
06	0	1	1	0	0	1	Green
07	1	1	1	0	0	1	Sky-Blue
08	0	0	0	1	0	1	W. B. Purple, R. Y. G. Sky blue, color skip (2s)
09	1	0	0	1	0	1	W. B. Purple, R. Y. G. Sky blue, color skip (4s)
10	0	1	0	1	0	1	W. B. Purple, R. Y. G. Sky blue, color skip (8s)
11	1	1	0	1	0	1	B. Purple, R. Y. G. Sky blue, color skip (2s)
12	0	0	1	1	0	1	B. Purple, R. Y. G. Sky blue, color skip (4s)
13	1	0	1	1	0	1	B. Purple, R. Y. G. Sky blue, color skip (8s)
14	0	1	1	1	0	1	W. B. Purple, R. Y. G. Sky blue, color fade (4s)
15	1	1	1	1	0	1	W. B. Purple, R. Y. G. Sky blue, color fade (6s)
16	0	0	0	0	1	1	W. B. Purple, R. Y. G. Sky blue, color fade (12s)
17	1	0	0	0	1	1	B. Purple, R. Y. G. Sky blue, color fade (4s)
18	0	1	0	0	1	1	B. Purple, R. Y. G. Sky blue, color fade (6s)
19	1	1	0	0	1	1	B. Purple, R. Y. G. Sky blue, color fade (12s)
20	0	0	1	0	1	1	W. B. color skip (2s)
21	1	0	1	0	1	1	W. B. color skip (4s)
22	0	1	1	0	1	1	W. B. color skip (8s)
23	1	1	1	0	1	1	W. B. color skip (4s)
24	0	0	0	1	1	1	W. B. color skip (6s)
25	1	0	0	1	1	1	W. B. color skip (12s)

CHAPTER 2 LEB-431DMX/LEB-432DMX

1. Technical Data

Voltage: 12V DC
 Power: 15W/27W
 Color: RGBW
 LED: 1-4X3W / 2-4X3W
 LED Life: 50000H
 Standard Aperture: Φ 14mm (Optional: Φ 17.3mm Max)

2. Installation

The installation dimension of Light Engine and rear panel (Fig. 1)

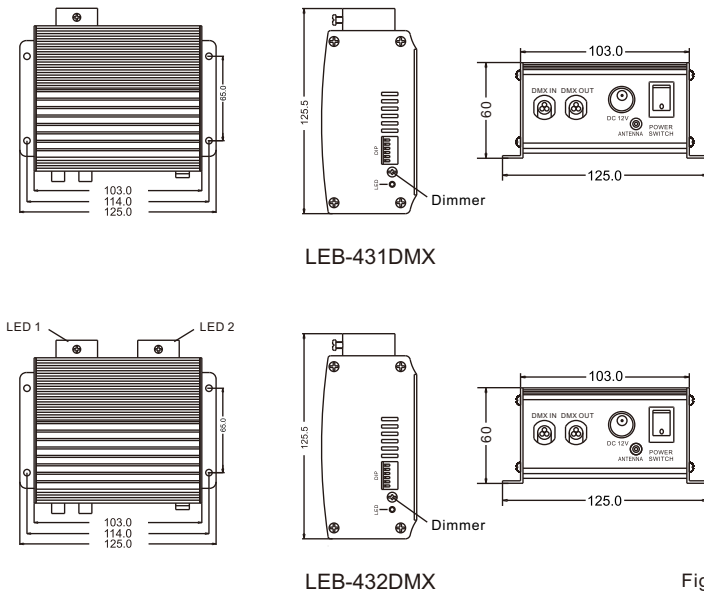


Fig. 1

3. Installation of the fiber optic (Fig.2)

- (1) Cut fibers to the specified length. If it is of multi-string fiber, you need to peel off 5-10cm PVC jacket carefully and avoid hurting the inner fiber;
- (2) Collect all fibers in one bundle and tightly enlance at the 10cm location from one end with tape. Insert the fiber bundle into the PG connector and fiber connector, and fasten the PG connector. Cut the fibers flush with the fiber connector with hot knife;
- (3) Insert the finished fiber connector into the fixing flange and fasten the screw tightly;
- (4) The installation of the end part of the fiber optic:

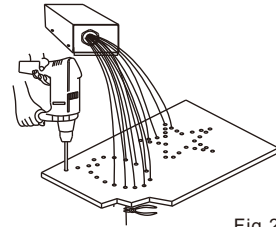
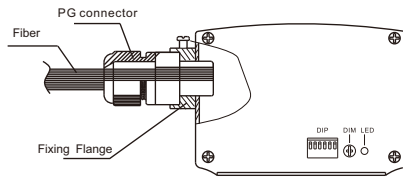


Fig.2

4. Light Engine Setup

The light engine has two control modes:

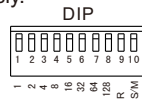
* DMX 512 signal mode: The light engine is controlled by a DMX 512 program controller.

* Master/Slave mode: One light engine is set as Master and all the others as slave machines. Master machine sends signal to the slave machines so that all the machines run the program synchronously.

(1) DIP switches: SW10 is used for Master/Slave . (1=Master, 0=Slave).

* When SW10 is OFF, SW1-8 is used for DMX address (Please refer to the Attached Table, 1=ON, 0=OFF) and SW9 is unused.

* When SW10 is ON, SW1-SW5 are for program selection, DIP6-8 are unused; SW9 for remote controller (1=ON, 0=OFF). When the program set exceeds P25, the machine runs P25.



DMX add.	DIP Switch									
	10	9	8	7	6	5	4	3	2	1
001	1	0	0	0	0	0	0	0	0	1
002	1	0	0	0	0	0	0	0	1	0
003	1	0	0	0	0	0	0	1	1	1
004	1	0	0	0	0	0	1	0	0	0
005	1	0	0	0	0	0	1	0	1	1
---	---	---	---	---	---	---	---	---	---	---
011	1	0	0	0	0	1	0	1	1	1
---	---	---	---	---	---	---	---	---	---	---
022	1	0	0	0	1	0	1	1	1	0

(2) Calculation of DMX Address:

i.e. DMX Address 018=16(5)+2(2), 022=16(5)+4(3)+2(2)

(3) Dimming Knob: The default brightness is 100%. You can adjust the brightness by turning the knob.

(4) DMX Channels:

CH1:Red CH2:Green CH3:Blue CH4:White CH5: Speed of color changing
CH6: Dimmer + Strobe

(5) The connection of DMX Signal Control Mode (Fig. 3):

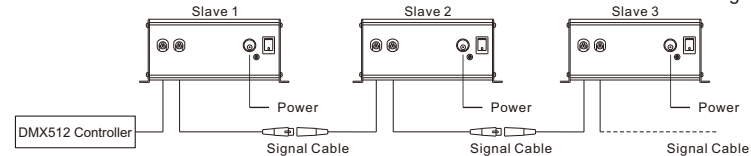


Fig.3

(6) The connection of Master/Slave Control Mode (Fig. 4):

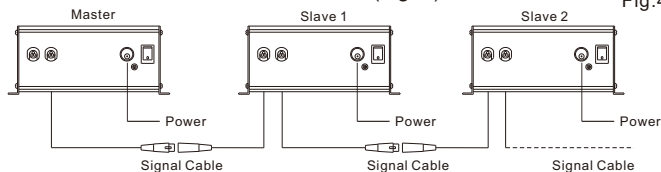


Fig.4

(7) Signal cable and the connector (Fig. 5):
Signal cable is 2×0.5mm² audio cable.

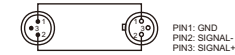


Fig.5

(8) Using of wireless remote controller (Fig. 6) :

Set SW9 & SW10 to ON and other switches to OFF, the remote control function is on.

a. "PRO" Selecting Programs:

Press "PRO" then press button ①-⑥ to choose the program. The sum of the buttons you have pressed refers to the program number, which should not exceed 25. For example, you could press 4, 4, 5 and 5 (four buttons) to get Program 18.

b. "DIM" is used to adjust the brightness:

Press "DIM", the default brightness is 100%. Press "↑"/"↓" or the corresponding number buttons to adjust the brightness;

①-10%, ②-20%, ③-40%, ④-60%, ⑤-80%, ⑥-100%

c. "↑/↓": UP/DOWN button:

After you press "PRO" and "DIM", you can change the parameters by "↑"/"↓". When UP/DOWN button is pressed, the light engine will work accordingly if the value falls in the effective number category.

d. "ON/OFF" button:

The light engine will run the last program when you turn it on.

e. "ENT" ENTER button: Lock/save the programs.



Fig.6

RC-12
Wireless Remote Controller

Attached Table :

Pro.NO	DIP On (1 is ON, 0 is 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	Purple
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	Green
07	1	1	1	0	0	0	0	0	0	1	Sky-Blue
08	0	0	0	1	0	0	0	0	0	1	W. B. Purple. R. Y. G. Sky blue, color skip (2s)
09	1	0	0	1	0	0	0	0	0	1	W. B. Purple. R. Y. G. Sky blue, color skip (4s)
10	0	1	0	1	0	0	0	0	0	1	W. B. Purple. R. RY. G. Sky blue, color skip (8s)
11	1	1	0	1	0	0	0	0	0	1	B. Purple. R. Y. G. Sky blue, color skip (2s)
12	0	0	1	1	0	0	0	0	0	1	B. Purple. R. Y. G. Sky blue, color skip (4s)
13	1	0	1	1	0	0	0	0	0	1	B. Purple. R. Y. G. Sky blue, color skip (8s)
14	0	1	1	1	0	0	0	0	0	1	W. B. Purple. R. Y. G. Sky blue, color fade (4s)
15	1	1	1	1	0	0	0	0	0	1	W. B. Purple. R. Y. G. Sky blue, color fade (6s)
16	0	0	0	1	0	0	0	0	0	1	W. B. Purple. R. Y. G. Sky blue, color fade (12s)
17	1	0	0	0	1	0	0	0	0	1	B. Purple. R. Y. G. Sky blue, color fade (4s)
18	0	1	0	0	1	0	0	0	0	1	B. Purple. R. Y. G. Sky blue, color fade (6s)
19	1	1	0	0	1	0	0	0	0	1	B. Purple. R. Y. G. Sky blue, color fade (12s)
20	0	0	1	0	1	0	0	0	0	1	W. B. color skip (2s)
21	1	0	1	0	1	0	0	0	0	1	W. B. color skip (4s)
22	0	1	1	0	1	0	0	0	0	1	W. B. color skip (8s)
23	1	1	1	0	1	0	0	0	0	1	W. B. color skip (4s)
24	0	0	0	1	1	0	0	0	0	1	W. B. color skip (6s)
25	1	0	0	1	1	0	0	0	0	1	W. B. color skip (12s)

CHAPTER 3 LEE-431DMX/LEF-432DMX

1. Technical Data

- Voltage: 12V DC
- Power: 18W/27W
- Color: RGBW Mixing
- LED: 1-4X3W/2-4X3W LED
- LED Life: 50000H
- Standard Aperture: Φ 14mm (Optional: Φ 17.3mm Max)

2. Installation

The installation dimension of Light Engine and rear panel (Fig. 1)

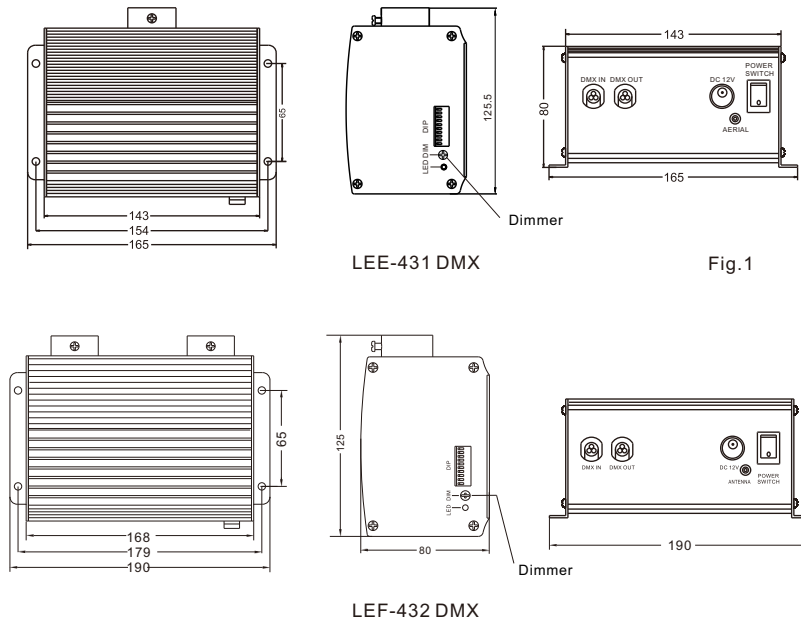


Fig. 1

3. Installation of the fiber optic (Fig.2)

- Cut fibers to the specified length. If it is of multi-string fiber, you need to peel off 5-10cm PVC jacket carefully and avoid hurting the inner fiber;
- Collect all fibers in one bundle and tightly enlace at the 10cm location from one end with tape. Insert the fiber bundle into the PG connector and fiber connector, and fasten the PG connector. Cut the fibers flush with the fiber connector with hot knife;
- Insert the finished fiber connector into the fixing flange and fasten the screw tightly;
- The installation of the end part of the fiber optic:

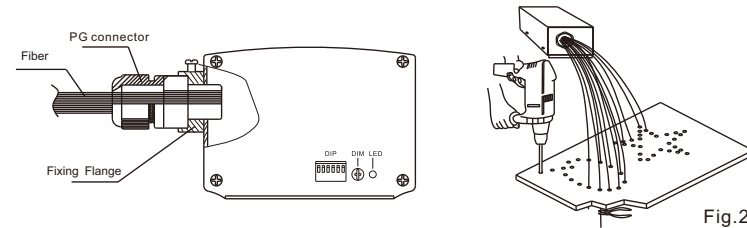


Fig.2

4. Light Engine Setup

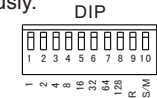
The light engine has two control modes:

- * DMX 512 signal mode: The light engine is controlled by a DMX 512 program controller.
- * Master/Slave mode: One light engine is set as Master and all the others as slave machines. Master machine sends signal to the slave machines so that all the machines run the program synchronously.

(1) DIP switches: SW10 is used for Master/Slave . (1=Master, 0=Slave).

* When SW10 is OFF, SW1-8 is used for DMX address (Please refer to the Attached Table, 1=ON, 0=OFF) and SW9 is unused.

* When SW10 is ON, SW1-SW5 are for program selection, DIP6~8 are unused; SW9 for remote controller (1=ON, 0=OFF). When the program set exceeds P28, the machine runs P28.



DMX add.	DIP Switch									
	10	9	8	7	6	5	4	3	2	1
001	1	0	0	0	0	0	0	0	0	1
002	1	0	0	0	0	0	0	0	0	1
003	1	0	0	0	0	0	0	0	0	1
004	1	0	0	0	0	0	0	0	1	0
005	1	0	0	0	0	0	0	1	0	1
---	---	---	---	---	---	---	---	---	---	---
011	1	0	0	0	0	1	0	1	0	1
---	---	---	---	---	---	---	---	---	---	---
022	1	0	0	0	1	0	1	1	0	1

(2) Calculation of DMX Address:

i.e. DMX Address 018=16(5)+2(2), 022=16(5)+4(3)+2(2)

(3) Dimming Knob: The default brightness is 100%. You can adjust the brightness by turning the knob.

(4) DMX Channels:

- CH1:Red CH2:Green CH3:Blue CH4:White CH5: Speed of color changing
- CH6: Dimmer + Strobe CH7:Speed of Twinkle wheel

(5) The connection of DMX Signal Control Mode (Fig. 3):

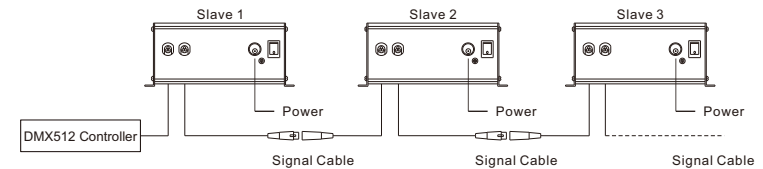


Fig.3

(6) The connection of Master/Slave Control Mode (Fig.4):

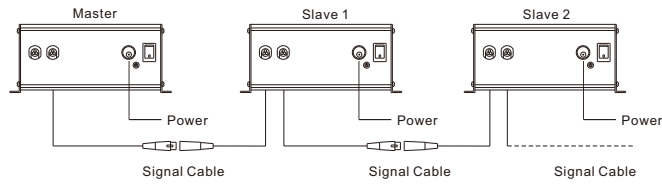


Fig.4

(7) Signal cable and the connector (Fig.5):

Signal cable is $2 \times 0.5\text{mm}^2$ audio cable.



Fig.5

(8) Using of wireless remote controller (Fig. 6) :

Set SW9 & SW10 to ON and other switches to OFF, the remote control function is on.

a. "PRO" Selecting Programs:

Press "PRO" then press button ①-⑥ to choose the program. The sum of the buttons you have pressed refers to the program number, which should not exceed 28. For example, you could press 4, 4, 5 and 5 (four buttons) to get Program 18.

b. "DIM" is used to adjust the brightness:

Press "DIM", the default brightness is 100%. Press "↑"/"↓" or the corresponding number buttons to adjust the brightness;

① -10%, ② -20%, ③ -40%, ④ -60%, ⑤ -80%, ⑥ -100%

c. "↑"/"↓": UP/DOWN button:

After you press "PRO" and "DIM", you can change the parameters by "↑"/"↓". When UP/DOWN button is pressed, the light engine will work accordingly if the value falls in the effective number category.

d. "⏻" ON/OFF button:

The light engine will run the last program when you turn it on.

e. "ENT" ENTER button: Lock/save the programs.

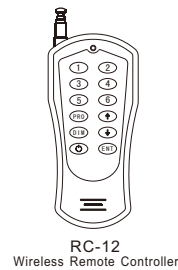


Fig.6

Attached Table:

PRG NO.	DIP Switch (1= on, 0 = off)										FUNCTION
	1	2	3	4	5	6	7	8	9	10	
00	1	0	0	0	0	0	0	0	0	1	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	Purple
04	1	0	1	0	0	0	0	0	0	1	Red
05	0	1	1	0	0	0	0	0	0	1	Yellow
06	1	1	1	0	0	0	0	0	0	1	Green
07	0	0	0	1	0	0	0	0	0	1	Sky-Blue
08	1	0	0	1	0	0	0	0	0	1	W, B, P, R, Y, G, Sky-B Skip (4s)
09	0	1	0	1	0	0	0	0	0	1	B, P, R, Y, G, Sky-B Skip (4s)
10	1	1	0	1	0	0	0	0	0	1	W, B, P, R, Y, G, Sky-B fade (6s)
11	0	0	1	1	0	0	0	0	0	1	B, P, R, Y, G, Sky-B fade (6s)
12	1	0	1	1	0	0	0	0	0	1	White, Twinkle Wheel (0.5RPM)
13	0	1	1	1	0	0	0	0	0	1	White, Twinkle Wheel (1RPM)
14	1	1	1	1	0	0	0	0	0	1	White, Twinkle Wheel (2RPM)
15	0	0	0	1	0	0	0	0	0	1	Blue, Twinkle Wheel (0.5RPM)
16	1	0	0	1	0	0	0	0	0	1	Blue, Twinkle Wheel (1RPM)
17	0	1	0	1	0	0	0	0	0	1	Blue, Twinkle Wheel (2RPM)
18	1	1	0	0	1	0	0	0	0	1	White,Blue fade (6s) , Twinkle Wheel (0.5RPM)
19	0	0	1	0	1	0	0	0	0	1	White,Blue fade (6s) , Twinkle Wheel (1RPM)
20	1	0	1	0	1	0	0	0	0	1	White,Blue fade (6s) , Twinkle Wheel (2RPM)
21	0	1	1	0	1	0	0	0	0	1	7 colors skip(4s), Twinkle Wheel(1RPM)
22	1	1	1	0	1	0	0	0	0	1	7 colors skip(4s), Twinkle Wheel(2RPM)
23	0	0	0	1	1	0	0	0	0	1	6 colors skip(4s), Twinkle Wheel(1RPM)
24	1	0	0	1	1	0	0	0	0	1	6 colors skip(4s), Twinkle Wheel(2RPM)
25	0	1	0	1	1	0	0	0	0	1	7colors fade(6s), Twinkle Wheel(1RPM)
26	1	1	0	1	1	0	0	0	0	1	7colors fade(6s), Twinkle Wheel(2RPM)
27	0	0	1	1	1	0	0	0	0	1	6 colors fade(6s), Twinkle Wheel(1RPM)
28	1	0	1	1	1	0	0	0	0	1	6 colors fade(6s), Twinkle Wheel(2RPM)