LIGHT ENGINE
USER MANUAL

MODEL:

LEA-501/LEA-502
LEA-501DMX/LEF-502DMX
LEG-501DMX
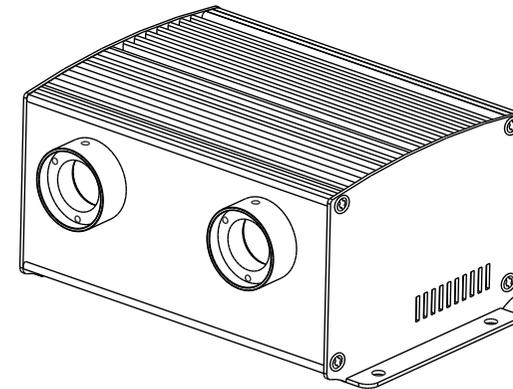
Accessories:

Fiber Connector ....1 PC
Wireless Remote Controller...............1 PC (Optional)
User Manual ....1 PC
Power Adapter ....1 PC
Signal Cable ....1 PC (for DMX machine only)

CE

ISO9001:2000
CERTIFIED

LIGHT ENGINE
USER MANUAL

Welcome to use LEA, LEF & LEG 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℃);

CHAPTER 1   LEA-501 / LEA-502

1. Technical Data

Voltage: 12V DC
Power: 7W/10W
Color: 6 Color
LED: 1-5W /2-5W LED (White)
LED Life: 50000H
Standard Aperture: Φ14mm (Optional: Φ17.3mm)

2. Installation

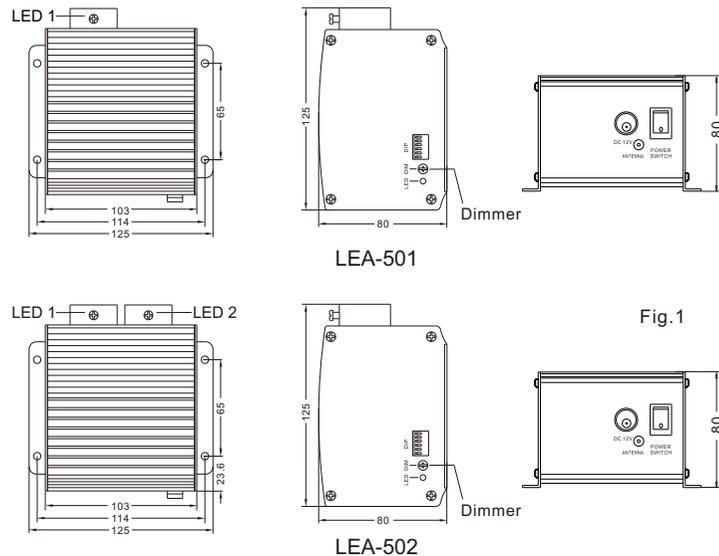The installation dimension of Light Engine and rear panel (Fig. 1)

LEA-501

LEA-502

Fig.1

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

⑴ 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;

⑵ 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;

⑶ Insert the finished fiber connector into the fixing flange and fasten the screw tightly;

⑷ The installation of the end part of the fiber optic:

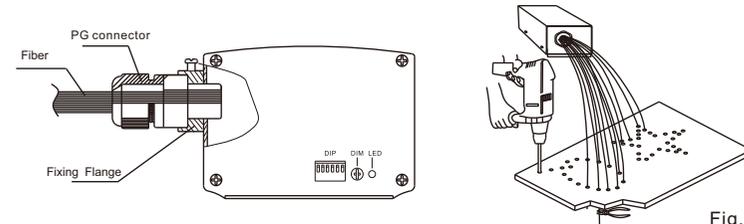
Fig.2

4. Light Engine Setup：

⑴ DIP switches: SW1~SW3 for programs selection, please see Attached Table (1=ON, 0=OFF). SW4 and SW5 are unused; SW6 for remote controller; (see fig. 3)

⑵ Calculation of DIP address code:
  e. g. 003=2(2)+1(1)，005=4(3)+1(1)

⑶ 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)

⑷ Fixing Color Without Wireless Remote controller : Firstly set SW2 and SW3 as "ON" to choose the inbuilt programme at a slow speed, then set all switches (SW1~SW6) into "OFF" when the light engine displays the color that you need.
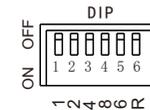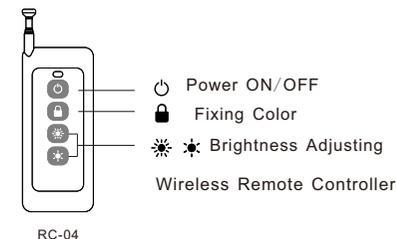

Fig. 3

⏻ Power ON／OFF
🔒 Fixing Color
☀ 🔅 Brightness Adjusting

Wireless Remote Controller

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 SWITCH(1=ON, 0=OFF)						FUNCTION
	1	2	3	4	5	6	
00	0	0	0	0	0	0	Motor stopped, LED working
01	1	0	0	0	0	1	W, Sky-B,G, Y, B, PP, fade (6RPM)
02	0	1	0	0	0	1	W, Sky-B,G, Y, B, PP, fade (4RPM)
03	1	1	0	0	0	1	W, Sky-B,G, Y, B, PP, fade (3RPM)
04	0	0	1	0	0	1	W, Sky-B,G, Y, B, PP, fade (2RPM)
05	1	0	1	0	0	1	W, Sky-B,G, Y, B, PP, fade (1.5RPM)
06	0	1	1	0	0	1	W, Sky-B,G, Y, B, PP, fade (1RPM)
07	1	1	1	0	0	1	W, Sky-B,G, Y, B, PP, fade (0.5RPM)

Notice: 1. RPM is the speed of the color wheel;
2. When DIP address exceeds P07, the machine will run P07 all the time;

CHAPTER2   LEA-501DMX / LEF-502DMX

1. Technical Data

Voltage: 12V DC
Power: 8W/14W
Color Wheel: 6 colors
LED: 1-5W / 2-5W LED (White)
LED Life: 50000H
Standard Aperture: Φ14mm (Optional: Φ17.3mm Max)

2. Installation

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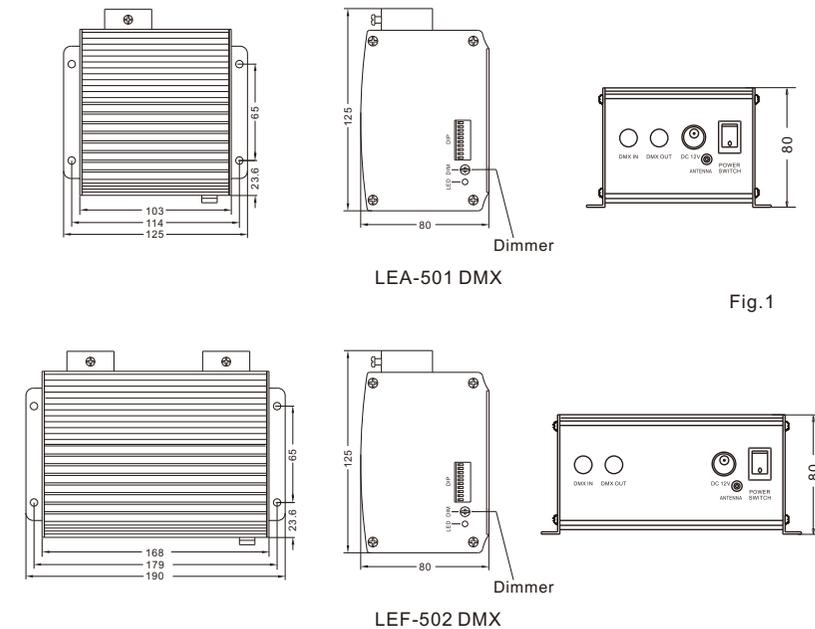

LEA-501 DMX

Fig.1

LEF-502 DMX

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;
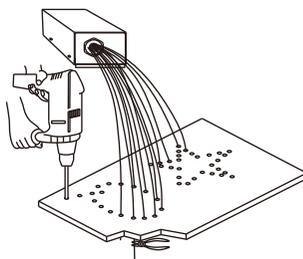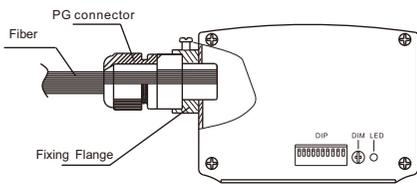(4) The installation of the end part of the fiber optic:

Fig.2

PG connector
Fiber
Fixing Flange
DIP DIM LED

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 P16, the machine runs P16.
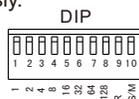
DIP

1 2 3 4 5 6 7 8 9 10

1 2 4 8 16 32 64 128 R S/M

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 0 1 1
004	1 0 0 0 0 0 0 1 0 0
005	1 0 0 0 0 0 0 1 0 1
---	- - - - - - - - - -
011	1 0 0 0 0 1 0 1 1
---	- - - - - - - - - -
016	1 0 0 0 0 1 0 0 0 0

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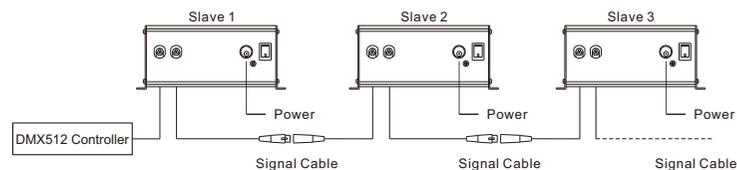   i.e.DMX Address 018=16(5)+2(2), 022=16(5)+4(3)+2(2)

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

(4) DMX Channels:
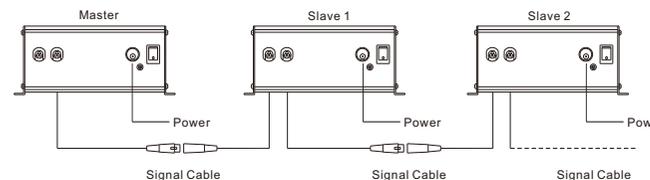   CH1:Color CH2:Speed of color wheel CH3:Blank CH4:Dimmer + Strobe

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

Fig.3

Slave 1   Slave 2   Slave 3
Power   Power   Power
DMX512 Controller
Signal Cable   Signal Cable   Signal Cable

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

Fig.4

Master   Slave 1   Slave 2
Power   Power   Power
Signal Cable   Signal Cable   Signal Cable

(7) Signal cable and the connector (Fig.5) :
   Signal cable is $2\times0.5mm^2$ audio cable.
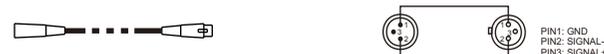
Fig.5

PIN1: GND
PIN2: SIGNAL-
PIN3: SIGNAL+

(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 button①-⑥ to choose the program. The sum of the buttons you have pressed refers to the program number, which should not exceed 16. For example, you could press 4, 5 and 5 (three buttons) to get Program 14.
   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：
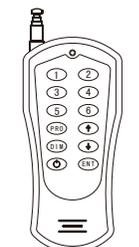   After you press ″PRO″ and ″DIM″, you can change the parameters by ″↑″/″↓″. When UP/DOWN button is pressed, the light engine will work accordingly if the value falls in the effective number category.
   d. ″⏻″ ON/OFF button:
      The light engine will run the last program when you turn it on.
   e. ″ENT″ ENTER button: Lock/save the programs.

RC-12
Wireless Remote Controller

Fig.6

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	Sky-Blue
03	1	1	0	0	0	0	0	0	0	1	Green
04	0	0	1	0	0	0	0	0	0	1	Yellow
05	1	0	1	0	0	0	0	0	0	1	Blue
06	0	1	1	0	0	0	0	0	0	1	Purple
07	1	1	1	0	0	0	0	0	0	1	W, Sky-B, G, Y, B, P Skip (2s)
08	0	0	0	1	0	0	0	0	0	1	W, Sky-B, G, Y, B, P Skip (4s)
09	1	0	0	1	0	0	0	0	0	1	W, Sky-B, G, Y, B, P Skip (6s)
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 (1RPM)
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	0	1	0	0	0	0	1	6 colors fade (6RPM)

CHAPTER3 LEG-501DMX

1. Technical Data

Voltage: 12V DC
Power: 10W
Color Wheel: 6 colors
LED: 1-5W LED (White)
LED Life: 50000H
Standard Aperture: Φ14mm (Optional: Φ17.3mm Max)

2. Installation

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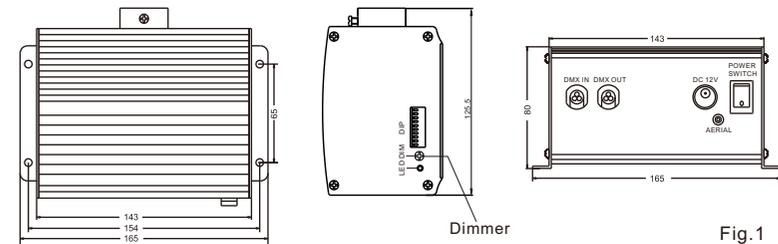

Dimmer

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;
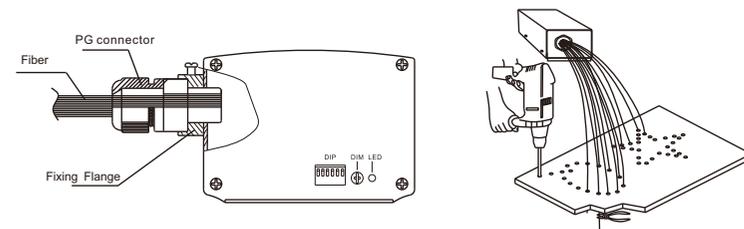
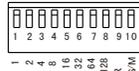(4) The installation of the end part of the fiber optic:

Fig.2

4. Light Engine Setup

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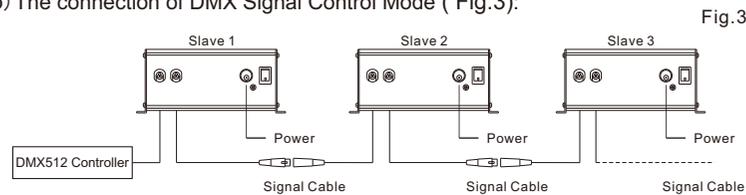
（1）DIP switches: SW10 is used for Master/Slave . (1=Master, 0=Slave).

∗ 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 P29, the machine runs P29.
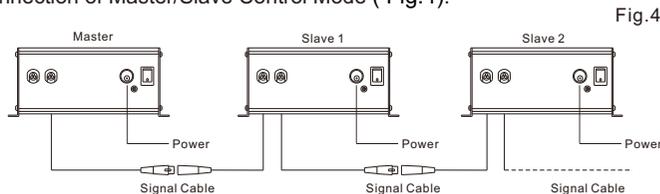
DIP

1 2 3 4 5 6 7 8 9 10

1 2 4 8 16 32 64 128 R S/M

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 0 1 1
004	1 0 0 0 0 0 0 1 0 0
005	1 0 0 0 0 0 0 1 0 1
---	- - - - - - - - - -
011	1 0 0 0 0 0 1 0 1 1
---	- - - - - - - - - -
016	1 0 0 0 0 1 0 0 0 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:Color   CH2:Speed of color wheel   CH3:Dimmer   CH4:Speed of Twinkle wheel

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

Fig.3

Slave 1   Slave 2   Slave 3

Power   Power   Power

DMX512 Controller

Signal Cable   Signal Cable   Signal Cable

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

Fig.4

Master   Slave 1   Slave 2

Power   Power   Power

Signal Cable   Signal Cable   Signal Cable

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

Signal cable should be 2×0.5mm^2 audio cable.

Fig.5

PIN1: GND
PIN2: SIGNAL-
PIN3: SIGNAL+

（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 button①-⑥ to choose the program. The sum of the buttons you have pressed refers to the program number, which should not exceed 29. 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;
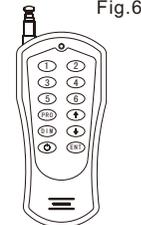
①-10%, ②-20%, ③-40%, ④-60%, ⑤-80%, ⑥-100%

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:

PRG NO.	DIP Switch (1= on, 0 = off) 1 2 3 4 5 6 7 8 9 10	FUNCTION
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	Sky-Blue
03	1 1 0 0 0 0 0 0 0 1	Green
04	0 0 1 0 0 0 0 0 0 1	Yellow
05	1 0 1 0 0 0 0 0 0 1	Blue
06	0 1 1 0 0 0 0 0 0 1	Purple
07	1 1 1 0 0 0 0 0 0 1	W, Sky-B, G, Y, B, P Skip (2s)
08	0 0 0 1 0 0 0 0 0 1	W, Sky-B, G, Y, B, P Skip (4s)
09	1 0 0 1 0 0 0 0 0 1	6 colors fade (0.5RPM)
10	0 1 0 1 0 0 0 0 0 1	6 colors fade (1RPM)
11	1 1 0 1 0 0 0 0 0 1	6 colors fade (2RPM)
12	0 0 1 1 0 0 0 0 0 1	White, Twinkle Wheel (0.5RPM)
13	1 0 1 1 0 0 0 0 0 1	White, Twinkle Wheel (1RPM)
14	0 1 1 1 0 0 0 0 0 1	White, Twinkle Wheel (2RPM)
15	1 1 1 1 0 0 0 0 0 1	Sky-Blue, Twinkle Wheel (2RPM)
16	0 0 0 0 1 0 0 0 0 1	Green, Twinkle Wheel (2RPM)
17	1 0 0 0 1 0 0 0 0 1	Yellow, Twinkle Wheel (2RPM)
18	0 1 0 0 1 0 0 0 0 1	Blue, Twinkle Wheel (0.5RPM)
19	1 1 0 0 1 0 0 0 0 1	Blue, Twinkle Wheel (1RPM)
20	0 0 1 0 1 0 0 0 0 1	Blue, Twinkle Wheel (2RPM)
21	1 0 1 0 1 0 0 0 0 1	Purple, Twinkle Wheel (2RPM)
22	0 1 1 0 1 0 0 0 0 1	6 colors skip(2s), Twinkle Wheel(1RPM)
23	1 1 1 0 1 0 0 0 0 1	6 colors skip(4s), Twinkle Wheel(2RPM)
24	0 0 0 1 1 0 0 0 0 1	6 colors fade(0.5RPM), Twinkle Wheel(0.5RPM)
25	1 0 0 1 1 0 0 0 0 1	6 colors fade(0.5RPM), Twinkle Wheel(1RPM)
26	0 1 0 1 1 0 0 0 0 1	6 colors fade(0.5RPM), Twinkle Wheel(2RPM)
27	1 1 0 1 1 0 0 0 0 1	6 colors fade(1RPM), Twinkle Wheel(0.5RPM)
28	0 0 1 1 1 0 0 0 0 1	6 colors fade(1RPM), Twinkle Wheel(1RPM)
29	1 0 1 1 1 0 0 0 0 1	6 colors fade(1RPM), Twinkle Wheel(2RPM)