



LIGHTING EFFECTS GUIDE

FOR COLOR KINETICS® LIGHTS WITH DIP SWITCHES

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PUB.00002000 Rev.01

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LET'S GET STARTED

Certain Color Kinetics lights and controllers have DIP switches for programming. Use these switches to choose the **control**, **effects**, and **variations** for each light. To determine whether the product you are interested in is programmed by DIP switches go to the support section of Color Kinetics website at <http://pro.colorkinetics.com/support>.

CONTROL

There are two control methods to choose from: stand-alone control, and external control. In stand-alone control, the light uses its own built-in effects. In external control, the light receives data from an external controller.

EFFECTS

Certain Color Kinetics controllers, are pre-programmed with an assortment of lighting effects. Not all Color Kinetics Lights have stand alone control.

VARIATIONS

Every effect has its own set of variations, which you can use to customize the effect.

Do the Dip

In order to select or change the control, effects, or variations for products that use DIP switches, you must disconnect the power to the light, set the DIP switches, and then repower the unit. New Shows will not be displayed until the unit is repowered.

(With Synchronizer and Multi Synchronizer, there is no need to disconnect and repower the units; new shows are displayed as soon as you set the DIP switches.)

We suggest you set the DIP switches with a blunt object such as a stylus or pen cap, not with a sharp object, which may damage the switches.

THE WORLD ACCORDING TO COLOR KINETICS
If you look at nothing else in this guide, don't miss the DIP Switch Settings Table (Table 1). This table is the key to what each DIP switch setting governs. You'll see from this table that in general, Dip Switches #10-12 determine the effect or the control method. Dip Switches #1-9 govern the variations or the DMX address.

CONTROL

External Control

If you are using a Color Kinetics controller or DMX512 controller to control your Color Kinetics lights, you need to set each light to external control mode, (switches 10, 11, and 12) and then set the DMX address for each light (switches 1-9). For details about external control, skip directly to the External Control section, on the other side of this sheet.

Stand-alone Control

Only certain Color Kinetics fixtures have stand-alone control. In stand-alone control mode, the light displays one of its built-in effects. It will repeat the same effect for as long as it is being powered.

If you're using stand-alone control, proceed directly to the next section to choose the desired effect.

EFFECTS

Effects work in stand-alone control mode only. See the previous section on Control if you are controlling your lights with an external controller.

There are six types of effects possible in stand-alone mode:

- Fixed Color
- Cross Fade
- Fixed Color Strobe
- Variable Color Strobe
- Color Wash
- Random Color

Synchronizer and Multi Synchronizer have one additional effect:

- Chasing Rainbow

FIXED COLOR

Fixed Color allows the static display of any one of 512 possible colors. A Fixed Color Effect is generated by blending the primary colors of Red, Green and Blue.

To select Fixed Color, first set the switches for the Fixed Color effect. Throughout this guide, this symbol  indicates that the switch should be ON.

CHOOSE THE EFFECT: FIXED COLOR

Switches #10, 11 and 12: ON



CHOOSE THE VARIATION: FIXED COLOR



The variation on Fixed Color is choosing one of 512 discrete colors.

DISCRETE COLOR

Switches #1-3 control hues of red. Switches #4-6 control hues of green. Switches #7-9 control hues of blue. To illustrate the principles behind the DIP switch configurations let's look at blue (display of reds and greens follow similar principles). In general, the fewer switches in the on position, the lighter the shade of color which is displayed. So, to get a very light "sky blue," turn on only switch #7. The next hue would be switch #8 only and so on.

TABLE 1: DIP SWITCH SETTINGS

SWITCH #	1	2	3	4	5	6	7	8	9	10	11	12
FIXED COLOR	Add levels of Red		Add levels of Green		Add levels of Blue		On	On	On			
COLOR WASH	Speed .5 sec - 2 hrs		Saturation	Brightness	Cycle Direction	On	On					
CROSS FADE	Ending Color red, green, blue, cyan, magenta, yellow, white, black		Starting Color red, green, blue, cyan, magenta, yellow, white, black		Speed from starting color to ending color and back again		On					
RANDOM COLOR	Speed .05 sec - 3 min		Saturation			On						
FIXED COLOR STROBE	Color red, green, blue, cyan, magenta, yellow, white, black		Strobe Rate 20/sec - 2/sec		On							
VARIABLE COLOR STROBE	Speed (color advance)		Saturation	Cycle Direction	Strobe Rate 20/sec - 2/sec	On						
PC-DMX	PC Address				On							
DMX512	DMX512 Address											

SWITCH #	7	8	9
0	No blue		
1	Lightest blue	■	
2	A little more		■
3	A bit more	■	
4	Still more		■
5	Even more	■	
6	More intense	■	■
7	Most intense	■	■

With additive color mixing, you can mix reds, greens and blues to produce secondary colors. The following illustration shows how secondary colors are produced:



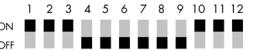
(Remember additive color mixing!)

Let's look at one more example before we move on to the next effect. Refer to the table below. If you'd like to produce purple (or "magenta") hues, you'll need to mix red (switches #1-3) and blue (switches #7-9). That means that switches #4-6 (the greens) should remain in the off position.

SWITCH #	1	2	3	7	8	9
0	No magenta					
1	Lightest	■				
2	A little more		■			
3	A bit more			■		
4	Still more				■	
5	Even more					■
6	More intense					■
7	Most intense					■

EXAMPLE OF FIXED COLOR EFFECT

Full Intensity Red



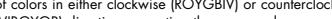
1 2 3 4 5 6 7 8 9 10 11 12



1 2 3 4 5 6 7 8 9 10 11 12



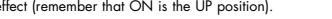
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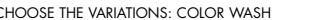
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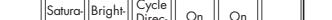
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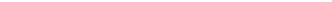
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1 2 3 4 5 6 7 8 9 10 11

FIXED COLOR STROBE

Strobes are a "stop action," or rapid series of very short intense light flashes which can make actions seem intermittent. In the Fixed Color Strobe effect, the same color is strobed at each flash.

CHOOSE THE EFFECT: FIXED COLOR STROBE
Switch #11: ON
Switches #10 and 12: OFF



CHOOSE THE VARIATIONS: FIXED COLOR STROBE
The Fixed Strobe effect can be varied by Color and Strobe Rate.

COLOR

In the Fixed Color Strobe Effect, switches #1-3 AND #4-6 govern which single color will be displayed during the flash. Choose one of the following eight colors: black, red, green, yellow, blue, magenta, cyan, or white. Both Switches #1-3 AND #4-6 must be configured in exactly the same way. The following table illustrates the available colors and their settings:

SWITCH #	1	2	3	4	5	6
0	Black					
1	Red	■				
2	Green	■	■			
3	Yellow	■	■	■		
4	Blue	■	■	■	■	
5	Magenta	■	■	■	■	■
6	Cyan	■	■	■	■	■
7	White	■	■	■	■	■

STROBE RATE
In the Fixed Color Strobe Effect, Switches #7-9 govern the strobe rate which can be set from as fast as 20 flashes per second to as slow as 2 flashes per second. For the fastest speed (20/sec.), all switches between #7-9 are OFF. For the slowest speed (2/sec.), all switches between #7-9 are ON. The table above illustrates all available options and their binary equivalents:

SWITCH #	7	8	9	
0	20/sec			
1	13/sec	■		
2	10/sec	■		
3	7.5/sec	■	■	
4	5/sec	■	■	
5	3.5/sec	■	■	
6	2/sec	■	■	■

EXAMPLE OF FIXED COLOR STROBE EFFECT
Strobing Red at a rate of 20 flashes/second



VARIABLE COLOR STROBE

Strobes are a "stop motion," or rapid series of very short intense light flashes which can make actions seem intermittent. The Variable Color Strobe Effect cycles through a sequence of colors, generating strobes of different colors.

CHOOSE THE EFFECT:
VARIABLE COLOR STROBE
Switches #10 and 12: ON
Switch #11: OFF



CHOOSE THE VARIATIONS:
VARIABLE COLOR STROBE

The Variable Color Strobe Effect can be varied by Speed, Cycle Direction and Strobe Rate.

SPEED
In the Variable Color Strobe Effect, Switches #1-5 govern the pattern of colors displayed during the flash of the strobe. The pattern of colors displayed depends on how fast the colors are advancing through the spectrum. This advance is measured as a percentage around the spectrum. At the lower speeds, each strobe will flash sequential colors since it is slowly advancing through the spectrum. Faster speeds will flash colors further apart in the spectrum, with the fastest speed flashing complementary colors. The following table illustrates all available Speed options and their binary equivalents.

VARIABLE COLOR STROBE SPEED

SWITCH #	1	2	3	4	5
0	0.07%				
1	1.13%	■			
2	2.00%	■			
3	3.00%	■	■		
4	4.33%	■	■	■	
5	5.39%	■	■	■	■
6	6.46%	■	■	■	■
7	7.52%	■	■	■	■
8	8.65%	■	■	■	■
9	9.78%	■	■	■	■
10	1.00%	■	■	■	■
11	1.20%	■	■	■	■
12	1.40%	■	■	■	■
13	1.60%	■	■	■	■
14	2.00%	■	■	■	■
15	2.30%	■	■	■	■
16	2.90%	■	■	■	■
17	3.60%	■	■	■	■
18	4.20%	■	■	■	■
19	4.90%	■	■	■	■
20	5.90%	■	■	■	■
21	7.20%	■	■	■	■
22	8.50%	■	■	■	■
23	10%	■	■	■	■
24	12%	■	■	■	■
25	15%	■	■	■	■
26	18%	■	■	■	■
27	22%	■	■	■	■
28	25%	■	■	■	■
29	33%	■	■	■	■
30	38%	■	■	■	■
31	49.9%	■	■	■	■

CYCLE DIRECTION

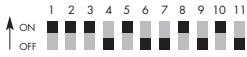
The direction of the flow of colors can be controlled in the Variable Color Strobe through Switch #6. When Switch #6 is OFF, the direction of the flow of colors is clockwise from Red to Violet (ROYGBIV). When Switch #6 is ON, the direction the flow of colors is counterclockwise from Violet to Red (VIBGYOR).

STROBE RATE

In the Variable Color Strobe Effect, Switches #7-9 govern the strobe rate which can be set from as fast as 20 flashes per second to as slow as 2 flashes per second. For the fastest speed (20/sec.), all switches between #7-9 are OFF. For the slowest speed (2/sec.), all switches between #7-9 are ON. The following table illustrates all available options and their binary equivalents:

SWITCH #	7	8	9	
0	20/sec			
1	13/sec	■		
2	10/sec	■		
3	7.5/sec	■	■	
4	5/sec	■	■	
5	3.5/sec	■	■	
6	2/sec	■	■	■

EXAMPLE OF VARIABLE COLOR STROBE EFFECT
Speed of 10% advance, Clockwise Direction, Strobe Rate of 10/sec



This Speed will display advancing complementary colors.

CHASING RAINBOW

Chasing Rainbow uses a series of fixtures to produce a cascading, revolving rainbow of light. The effect is similar to each color being chased by all the other colors in the rainbow.

NOTE: The Chasing Rainbow effect is only available with Synchronizer and Multi Synchronizer. Set each light for External DMX Control (switches 10, 11, and 12 OFF) and set the controller as follows:

CHOOSE THE EFFECT:

CHASING RAINBOW
Switches #11 and 12: ON

Switch #10: OFF

CHOOSE THE VARIATIONS:

VARIABLE COLOR STROBE

The Variable Color Strobe Effect can be varied by Speed, Cycle Direction and Strobe Rate.

SPEED

In the Variable Color Strobe Effect, Switches #1-5 govern the pattern of colors displayed during the flash of the strobe. The pattern of colors displayed depends on how fast the colors are advancing through the spectrum. This advance is measured as a percentage around the spectrum. At the lower speeds, each strobe will flash sequential colors since it is slowly advancing through the spectrum. Faster speeds will flash colors further apart in the spectrum, with the fastest speed flashing complementary colors. The following table illustrates all available Speed options and their binary equivalents.

SPEED

Speed refers to the time it takes for a rainbow cycle to repeat. For instance, if you set speed to 10 seconds, then 10 seconds will elapse between one appearance of a color and its next appearance on any one light. Alternatively, if 12 lights are projecting a rainbow vertically against a wall, it will take 10 seconds for a color to be chased across the 12 light rainbow. Speed options range from 2 seconds to 2 hours. Select speed by setting switches 1 through 4 as shown in the following table

CHASING RAINBOW SPEED

BINARY NO.	SPEED	SWITCH #	1	2	3	4
0	2 sec					
1	1.13 sec	■				
2	2 sec	■				
3	3 sec	■	■			
4	4 sec	■	■			
5	5 sec	■	■	■		
6	6 sec	■	■	■		
7	7 sec	■	■	■	■	
8	10 sec	■	■	■	■	■
9	13 sec	■	■	■	■	■
10	16 sec	■	■	■	■	■
11	20 sec	■	■	■	■	■
12	24 sec	■	■	■	■	■
13	30 sec	■	■	■	■	■
14	40 sec	■	■	■	■	■
15	50 sec	■	■	■	■	■
16	60 sec	■	■	■	■	■
17	70 sec	■	■	■	■	■
18	80 sec	■	■	■	■	■
19	90 sec	■	■	■	■	■
20	10 sec	■	■	■	■	■
21	13 sec	■	■	■	■	■
22	16 sec	■	■	■	■	■
23	20 sec	■	■	■	■	■
24	24 sec	■	■	■	■	■
25	30 sec	■	■	■	■	■
26	36 sec	■	■	■	■	■
27	40 sec	■	■	■	■	■
28	48 sec	■	■	■	■	■
29	56 sec	■	■	■	■	■
30	64 sec	■	■	■	■	■
31	72 sec	■	■	■	■	■
32	80 sec	■	■	■	■	■
33	96 sec	■	■	■	■	■
34	100 sec	■	■	■	■	■
35	103 sec	■	■	■	■	■
36	106 sec	■	■	■	■	■
37	109 sec	■	■	■	■	■
38	112 sec	■	■	■	■	■
39	115 sec	■	■	■	■	■
40	118 sec	■	■	■	■	■
41	121 sec	■	■	■	■	■
42	124 sec	■	■	■	■	■
43	127 sec	■	■	■	■	■
44	130 sec	■	■	■	■	■
45	133 sec	■	■	■	■	■
46	136 sec	■	■	■	■	■
47	139 sec	■	■	■	■	■
48	142 sec	■	■	■	■	■
49	145 sec	■	■	■	■	■
50	148 sec	■	■	■	■	■
51	151 sec	■	■	■	■	■
52	154 sec	■	■	■	■	■
53	157 sec	■	■	■	■	■
54	160 sec	■	■	■	■	■
55	163 sec	■	■	■	■	■
56	166 sec	■	■	■	■	■
57	169 sec	■	■	■	■	■
58	172 sec	■	■	■	■	■
59	175 sec	■	■	■	■	■
60	178 sec	■	■	■	■	■
61	181 sec	■	■	■	■	■
62	184 sec	■	■	■	■	■
63	187 sec	■	■	■	■	■
64	190 sec	■	■	■	■	■
65	193 sec	■	■	■	■	■
66	196 sec	■	■	■	■	■
67	199 sec	■	■	■	■	■
68	202 sec	■	■	■	■	■
69	205 sec	■	■	■	■	■
70	208 sec	■	■	■	■	■
71	211 sec	■	■	■	■	■
72	214 sec	■	■	■	■	■
73	217 sec	■	■	■	■	■
74	220 sec	■	■	■	■	■
75	223 sec	■	■	■	■	■
76	226 sec	■	■	■	■	■
77	229 sec	■	■	■	■	■
78	232 sec	■	■	■	■	■
79	235 sec	■	■	■	■	■
80	238 sec	■	■	■	■	■
81	241 sec	■	■	■	■	■
82	244 sec	■	■	■	■	■
83	247 sec	■	■	■	■	■
84	250 sec	■	■	■	■	■
85	253 sec	■	■	■	■	■

with the naked eye. The other colors we can identify are due to variations in brightness and saturation.

DMX AND DMX12:</