

PHILIPS



SwitchWizard
Lighting Effects Guide

If you would like to know how to produce Color Wash or Cross Fade effects with Philips Color Kinetics color changing fixtures and controllers that have DIP switches, this SwitchWizard Lighting Effects Guide will help.

This guide illustrates how to create these effects by demonstrating the proper DIP switch settings for all pre-programmed lighting shows. The guide also shows the proper DMX address settings for certain Philips Color Kinetics lights.

Please note, this guide, published in 2000, is not relevant for any current Philips Color Kinetics color changing fixtures or controllers.



LIGHTING EFFECTS GUIDE

FOR COLOR KINETICS® LIGHTS WITH DIP SWITCHES

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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
- Color Wash
- Random Color
- Variable Color Strobe

Synchronizer and Multi Synchronizer have one additional effect:

- Chasing Rainbow

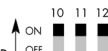
FIXED COLOR

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.

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:



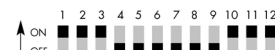
(Remember additive color mixing!)

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



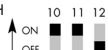
COLOR WASH

The Color Wash effect moves sequentially around the spectrum of colors in either clockwise (ROYGBIV) or counterclockwise (VIBGYOR) direction, repeating the same cycle over and over, at user-definable speeds.

To select Color Wash, first set the switches for the Color Wash effect (remember that ON is the UP position).

CHOOSE THE EFFECT: COLOR WASH

Switches #10 and 11: ON



Switch #12: OFF

CHOOSE THE VARIATIONS: COLOR WASH

The Color Wash can be varied by speed, saturation, brightness and cycle direction.

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				Satura- tion	Bright- ness	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				Satura- tion	Starting Color red, green, blue, cyan, magenta, yellow, white, black				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)			Cycle Direction	Strobe Rate 20/sec - 2/sec			On		On		
PC-DMX	PC Address									On		
DMX512	DMX512 Address											

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.

SPEED

In Color Wash, Speed is defined as the amount of time which elapses between the initial display of the starting color in cycle one (red in ROYGBIV, or violet in VIBGYOR), and its next display which begins cycle two. There are 64 different speeds which can be set in the Color Wash effect, ranging from as fast as .5 seconds to as long as 2 hours to complete a single cycle. Switches #1-6 control the speed options. For the fastest speed (.5 sec.), all switches between #1-6 are OFF. For the slowest speed (2 hrs.), all switches between #1-6 are ON. The following table illustrates the available options, switch settings and their binary equivalents.

COLOR WASH SPEED

SWITCH #	1	2	3	4	5	6
0	0.5 sec					
1	0.6 sec					
2	0.7 sec					
3	0.8 sec					
4	0.9 sec					
5	1.1 sec					
6	1.2 sec					
7	1.4 sec					
8	1.6 sec					
9	1.9 sec					
10	2.2 sec					
11	2.3 sec					
12	2.9 sec					
13	3.3 sec					
14	3.8 sec					
15	4.4 sec					
16	5 sec					
17	5.8 sec					
18	6.7 sec					
19	7.7 sec					
20	8.8 sec					
21	10.2 sec					
22	11.7 sec					
23	13.4 sec					
24	15.4 sec					
25	18 sec					
26	20 sec					
27	24 sec					
28	27 sec					
29	30 sec					
30	35 sec					
31	40 sec					
32	45 sec					
33	50 sec					
34	1 min					
35	1.1 min					
36	1.3 min					
37	1.5 min					
38	1.8 min					
39	2 min					
40	2.3 min					
41	2.7 min					
42	3 min					
43	3.5 min					
44	4 min					
45	4.5 min					
46	5 min					
47	5.5 min					
48	6 min					
49	6.5 min					
50	7 min					
51	8 min					
52	9 min					
53	10 min					
54	12 min					
55	15 min					
56	20 min					
57	25 min					
58	30 min					
59	40 min					
60	50 min					
61	1 hr					
62	1.5 hrs					
63	2 hrs					

SATURATION

In the Color Wash effect, you can vary the saturation by choosing light saturation (pastels) or full saturation. Switch #7 controls saturation. For light saturation, set switch #7 OFF. For full saturation, set switch #7 ON.

BRIGHTNESS

In the Color Wash effect, switch #8 controls the level of brightness. The brightness, or intensity, of the light can be set to either half intensity or full intensity. For half intensity, set switch #8 OFF. For full intensity, set switch #8 ON.

CYCLE DIRECTION

The direction of the sequential flow of colors can be controlled in the Color Wash effect through switch #9. When switch #9 is OFF, the direction of the flow of colors is clockwise from red to violet (ROYGBIV). When switch #9 is ON, the direction of the flow of colors is counterclockwise from violet to red (VIBGYOR).

EXAMPLE OF COLOR WASH EFFECT

Speed of 20 seconds, full saturation, full brightness, in a clockwise direction (ROYGBIV)



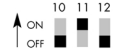
CROSS FADE

The Cross Fade effect causes the light to smoothly move from one color to another. The Cross Fade differs from a Color Wash in that it alternates between only two colors while the Color Wash cycles through the entire spectrum of colors. The Cross Fade slowly increases the intensity of one color of light while simultaneously reducing the intensity of another color. For example, a Cross Fade set to begin with red and end in blue will first display a fully intense red, then mix in a bit of blue (producing pinkish hues), then mix more blue (to produce magenta hues), then display fully intense blue, and reverse the process (magenta, pink, red) before beginning the next cycle (red-pink-magenta-blue-magenta-pink-red).

CHOOSE THE EFFECT: CROSS FADE

Switch #11: ON

Switches #10 and 12: OFF



CHOOSE THE VARIATIONS: CROSS FADE

The Cross Fade can be varied by choosing one of eight starting colors and one of eight ending colors at one of eight different speeds.

STARTING COLOR

In the Cross Fade effect, switches #4-6 govern which color begins the fade. Choose one of the following eight colors: black, red, green, yellow, blue, magenta, cyan or white.

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

ENDING COLOR

In the Cross Fade Effect, Switches #1-3 govern which color to fade to before it reverses back to the Starting Color.

Choose one of the following eight colors: black, red, green, magenta, blue, yellow, cyan or white.

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

Do not set the Starting Color and Ending Color to the same color. If you want a static color display, choose the Fixed Color effect.

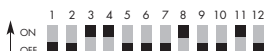
SPEED

In Cross Fade, Speed is defined as the amount of time that elapses between the initial display of the Starting Color to the Ending Color and back again. There are eight different speeds for the Cross Fade effect, ranging from as fast as 5 seconds for the round trip to as long as 1 hour to complete the round trip. Switches #7-9 control the speed options. For the fastest speed (5 sec.), all switches between #7-9 are OFF. For the slowest speed (1 hr.), all switches between #7-9 are ON. The table below illustrates all available speed options and their binary equivalents:

SWITCH #	7	8	9
0	5 sec		
1	10 sec		
2	30 sec		
3	1 min		
4	2 min		
5	30 min		
6	30 min		
7	1 hr		

EXAMPLE OF CROSS FADE EFFECT

Starting from red, fading to blue at a speed of 30 seconds round trip



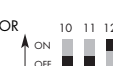
RANDOM COLOR

The Random Color effect produces a randomly generated set of colors at user-definable speeds. Colors step in discrete increments from one hue to the next.

CHOOSE THE EFFECT: RANDOM COLOR

Switches #10 and 11: OFF

Switch #12: ON



CHOOSE THE VARIATIONS: RANDOM COLOR

The Random Color Effect can be varied by Speed, Saturation and Starting Color.

SPEED

In Random Color, Speed is defined as the amount of time a single color is displayed before it "jumps" to the next color. There are 32 different speeds which can be set for the Random Color effect, ranging from as fast as .05 seconds to as long as 3 minutes before jumping to the next color. Switches #1-5 control speed. For the fastest speed (.05 sec.), all switches between #1-5 are OFF. For the slowest speed (3 min.), all switches between #1-5 are ON. The following table illustrates the available options, switch settings and their binary equivalents.

RANDOM COLOR SPEED

SWITCH #	1	2	3	4	5
0	0.05 sec				
1	0.06 sec				
2	0.08 sec				
3	0.12 sec				
4	0.15 sec				
5	0.21 sec				
6	0.25 sec				
7	0.3 sec				
8	0.4 sec				
9	0.5 sec				
10	0.75 sec				
11	1 sec				
12	1.2 sec				
13	1.5 sec				
14	2 sec				
15	2.5 sec				
16	3.5 sec				
17	4.5 sec				
18	5 sec				
19	7.5 sec				
20	10 sec				
21	12 sec				
22	15 sec				
23	20 sec				
24	25 sec				
25	30 sec				
26	45 sec				
27	1 min				
28	1.5 min				
29	2 min				
30	2.5 min				
31	3 min				

SATURATION

In the Random Color Effect, you can vary

