KIP Color Density Calculator User Guide

The KIP Color Density Calculator is used to assist with the density calibration of KIP color printers. First make the density measurements with the X-rite Density Checker software, using the X-rite i1 Pro or X-rite i1 Pro 2 densitometer. Refer to the optical density adjustment procedure, in Setup Guide 3, or section 9.1 of the service manual.

1. Click the **Enable Content** button to enable the calculator's functionality.



In some versions of Excel, you may need to click the **Options** button from below the ribbon bar and then select "Enable this content" from the pop-up window.

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KIP Color	Security Alert - Macro
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Step 1: Sele	1
(R-20) KIP Color Density Calculator	Open the Trust Center CK Cancel

2. Select the model of printer from the drop down at the top that you wish to use with the calculator.

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In the X-rite Density Checker Program, press Control-A to select all, then press Control-C to copy the density values. Select the green cell in the KIP Color Density Calculator and paste the values (Control-V).

(R-19) KIP Color Density Calculat	tor	800	Series	Reset	X-Rite i1 data
Serial #	Step 2: P pasting n Step 3: P	ress befo lew data aste data	6/12/18 8:24 PM		
Component	K	С	М	Y	
Optical density bank #1 (left)					
Optical density bank #2					
Optical density bank #3					
Optical densitv bank #4 (right)					

4. Once the values have been pasted into the calculator, new values for developer bias will be displayed. It is only necessary to change the values that are not **Green**. The corresponding BUD addresses are listed above the values for easier reference.

(R-20) KIP Color Density Calcula	or 800 Series TReset				X-Rite i1 data
Serial #	Step 2: P pasting r	Press befo New data	6/19/18 3:48 PM		
	Step 3: P	aste data	c0.99		
Component	K	С	М	Y	<mark>m0.86</mark>
Optical density bank #1 (left)	0.86	0.990	0.86	0.63	y0.63
Optical density bank #2	0.81	0.91	0.83	0.61	v0.86
Optical density bank #3	0.87	0.83	0.76	0.65	c0.91
Optical density bank #4 (right)	0.93	0.87	0.83	0.65	m0.83
Average	0.868	0.900	0.820	0.635	y0.61
Target	0.930	0.930	0.830	0.680	v0.81
Difference	0.063	0.030	0.010	0.045	c0.83
Adjustment Value	+13	+6	+2	+9	m0.76
Light Gain BUDs (1612 - 1615)	#1612	#1613	#1614	#1615	y0.65
Set Light Gain Values to	130	130	130	130	v0.87
Developer Bias BUDs (0460 - 0463)	#0460	#0461	#0462	#0463	c0.87
Current Developer Bias Values	-210	-180	-180	-180	m0.83
	222	100	400	100	y0.65
New Developer Blas values	-223	-100	-102	-109	v0.93

In the below example, the developer bias for black (BUD #0460) will be changed to -223, and the developer bias for yellow (BUD #0463) will be changed to -189

5. After making the necessary changes to the printer's BUDs, press the **Clear** button. This will clear the previous measurements, and also set the new light gain and developer bias values to the current values. The calculator is now ready for the next set of density measurements to be pasted in the green cell.

(R-19) KIP Color Density Calcula	tor	900	Series	Reset	X-Rite i1	data
Serial #	Step 2: P pasting n	ress befo ew data	6/12/18 2:3	34 PM		
	Step 3: P	aste data				
Component	K	С	М	Y		
Optical density bank #1 (left)						
Optical density bank #2						
Optical density bank #3						
Ontical density bank #4 (right)						

6. Continue making adjustments, pressing the **Clear** button after each round of adjustments, and pasting in new density readings until all of the adjustment cells are **Green**, indicating that no further adjustments are needed.

(R-20) KIP Color Density Calcula	tor	800	Series 🔻	Reset	X-Rite i1 data
Serial #	Step 2: P pasting n	Press befo New data	6/19/18 3:57 PM		
	Step 3: P	aste data	here 💻		c0.99
Component	K	С	М	Y	<mark>m0.86</mark>
Optical density bank #1 (left)	0.90	0.990	0.86	0.67	<mark>y0.67</mark>
Optical density bank #2	0.86	0.91	0.83	0.64	v0.90
Optical density bank #3	0.91	0.83	0.76	0.69	c0.91
Optical density bank #4 (right)	0.97	0.87	0.83	0.66	<mark>m0.83</mark>
Average	0.910	0.900	0.820	0.665	<mark>y0.64</mark>
Target	0.930	0.930	0.830	0.680	v0.86
Difference	0.020	0.030	0.010	0.015	c0.83
Adjustment Value	+4	+6	+2	+3	<mark>m0.76</mark>
Light Gain BUDs (1612 - 1615)	#1612	#1613	#1614	#1615	<mark>y0.69</mark>
Set Light Gain Values to	130	130	130	130	v0.91
Developer Bias BUDs (0460 - 0463)	#0460	#0461	#0462	#0463	c0.87
Current Developer Bias Values	-223	-180	-180	-189	m0.83
Now Developer Pize Values	227	196	192	102	y0.66
	-221	-100	-102	-192	v0.97

Note: Pressing the **Reset** button at the top will clear all of the density readings, and reset the developer bias values back to starting values.

After Optical Density Calibration is done, a confirmation check can be performed. **Orange** values are considered acceptable for the confirmation.