Calibrating KODAK PROFESSIONAL PORTRA Black & White Paper in the Gretag Lightjet 5000 Printer

To set up a Gretag Lightjet 5000 Printer with KODAK PORTRA Black & White Paper, a few extra steps are necessary. Because this material is black and white, the calibration routine that has been set up for color prints will not work. Included with this document are a configuration and a linearization file. The actual calibration has been done prior to this, but it must be optimized for your site. Follow the steps below to generate a configuration to print KODAK PORTRA Black & White Paper using your Gretag Lightjet 5000 Printer.

PROCEDURE

1. Install the Files Included

- Copy the configuration folder **Kodak Portra BW** into **C:\Picto\blend\config14**.

- Copy the linearization file **Kodak Portra BW.lin** into **C:\Picto\lut**.

- Copy **32step.tif** image (Fusion target with white separating the steps) into **C:\Picto\blend\system**.

Since a previously established linearization file will be used, you only need to obtain the D-max (neutrality will not be an issue because any patch printed should be neutral). For this paper, D-max values must be obtained using D-max separations, cyan, magenta, and yellow patches, which are located on the 32 step target provided. Fusion will not be used to determine the D-max exposures; Lightjet Explorer will be used.

2. Determine D-max Exposure Comp Values

Open Lightjet Explorer. If you don't have a shortcut, go to **C:\Picto\LJExplorer**. Click on **LJExplor.exe**.

Click on "**Utilities**" in the **Lightjet Explorer** dialog box. In the **Utilities** dialog box, click on "**Print**."

In the **Printing** window that appears, click on **Select Image**. You want to select the calibration target that is used in Fusion. Navigate to **C:\Picto\blend\system**. Choose **step32.tif**.

Click on **Select Material**.

In the **Material Selection** window that appears, make sure that **Calibration Type** is set to **Imported**, and enter the Exposure Comp values below:

Red	Green	Blue
45	-20	10

Click on **Select Material** to select a map file for this paper. Navigate to **C:\Picto\LJExplorer**. Choose **Defaultn.map**. Click **Open**.

A warning will appear reminding users to enter the exposure comp values. Be sure that they are set to the values above.

Click **OK**, and the previous menu will appear.

Note: Make sure the Lightjet is in Linearization mode.

Click **Print**.

Once the image is printed and processed, density measurements will have to be made on an offline densitometer (one that can measure Status A reflection densities).

Note: The image will be smaller than a typical target printed with Fusion.

Measure the **Status A visual density** (usually the first in a set of 4 values on a densitometer) of the cyan, magenta and yellow patches on the target. They will **appear neutral**. Follow the diagram below to identify the patches.
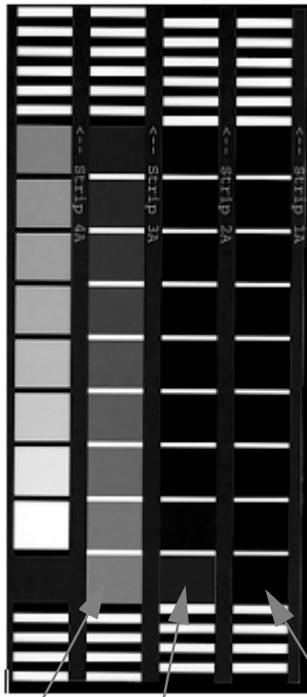
Yellow   Magenta   Cyan

Aims for the patches follow:

Status A Visual Density

Cyan Patch	Magenta Patch	Yellow Patch
1.88 (+0.08)	1.20 (+0.08)	0.58 (+0.08)

Use the table below to determine what Exposure Comp is necessary to get to the aim density. Print the first trial with the recommended starting position, record the density under the density columns, and compare to the aim. Make exposure adjustments based on the difference from the aim.

Start at Step 2. And repeat using adjusted Exposure Comp values. See the example (following) to adjust exposures.

	Red Exp	Green Exp	Blue Exp	Cyan Visual Density	Magenta Visual Density	Yellow Visual Density
Aim				**1.88**	**1.20**	**0.58**
Example	45	-20	10	1.84	1.12	0.50
Adjusted	49	-12	18	1.88	1.20	0.58
Trial 1	45	-20	10			
Trial 2						
Trial 3						
Trial 4						
Trial 5						
Trial 6						
Trial 7						

Note: Once the proper densities are achieved for D-max, be sure the Exposure Comp values are recorded.

Close all the menus associated with Lightjet Fusion.

The Exposure Comp values now need to be set as defaults in the software.

Now, navigate to the following directory:
C:\picto\blend\config14\Kodak Portra BW.

Open the file called **config.opt**.

The file will look as it does below:

```
exp_red=45
exp_green=-20
exp_blue=10
exp_search=1
double_timeout_sec=540
transmissive=0
double_processor_sec=600
material=Kodak Portra B&W Paper - revA
single_processor_sec=600
positive=0
exp_new_red=-999999
exp_new_green=-999999
exp_new_blue=-999999
densitometer_wait=0
transmissive_clear=0
resolution=0
```

The first 3 lines contain the exposure comp values.

Change the values to correspond to the values that were obtained previously. Be sure the to include a minus sign if the values obtained are negative.

Save the file (same name).

3. Setting Up a Configuration in System Manager

Open **System Manager**.

Click on **File>Setup Printer**.

Click on **Configuration** (upper right).

A new window will appear. Click on **Add**.

The **New Configuration** window will appear.

Enter a name for the new configuration (e.g. "Portra BW") and hit **Next.**

The **Copy Settings** window will appear.

Be sure that "Copy only the settings I choose" is selected, and click on **Next**.

In the **Choose Settings** dialog box, just click on **Next**. (This page should not have any boxes checked. Just skip right over it.)

Next, in the **Media Properties** box, select the media properties for PORTRA Black & White Paper:

Media Type	C Paper
Media Size	match your paper size
Resolution	choose an appropriate setting

Click on **Next**.

The next window (**Exposure Values**) is where the Exposure Comp Values must be entered. Enter the values that were established in Step 2.

In the following window (**Calibration Type**), the calibration type must be entered. Here, the calibration data supplied will be used. Be sure "Import an existing calibration" is checked. Then click on the "**Select…**" button. Navigate to **c:\picto\lut**.

Choose **Kodak Portra BW.lin**.

Click on **Next**.

Then **Finish**.

The configuration is complete. Select the configuration and begin printing!

Note: The blend calibration was performed in preparation for the configuration. However, it may not be perfect under different processor conditions. Errors will be more evident in flat or single color areas of a print (e.g. the sky or a flat field background), and less noticeable in busy scenes. It is the best that can be done for a black and white imaging system.

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