"WHITE" LINEARIZATION GUIDE FOR EFI VUTEK PRINTERS

Introduction

Fiery XF 5.2 and Fiery proServer 2.2 provide a new "white" linearization feature for EFI VUTEk printers. The new linearization is not tied to a specific license — any Fiery XF for VUTEk and Fiery proServer configuration has automatic access to it.

The benefit of a "white" linearization

Like any other process color, white ink shows a dot gain when printed on media. An input value 50% may lead to an output value of 80% if the ink is not getting linearized. This makes the white color output unpredictable.

Fiery XF users typically use visual correction curves (VCCs) to lower the dot gain of the white ink, but this is a manual process and requires some practice.

The new white ink linearization for the EFI VUTEk printer series provides a simple wizard that does exactly the same as the visual correction curves. However, it is based on measurement values, which makes the white ink channel much more predictable, particularly when printing jobs with white gradations.

Compatible media

The EFI VUTEk white linearization was created mainly for transparent and dark/black media. However, you can also linearize white on a colored media (e.g. blue, red, green). Be aware that the white linearization will not work on white or metallic (silver, gold, etc.) media.

Accessing the "white" linearization

Go to System Manager and select an EFI VUTEk output device driver that has "white" in its name, e.g. "HS100 Pro White", "GS2000LX Pro White", "QS2 Pro White".

These drivers support a white ink channel in addition to the CMYK, CMYKcm or CMYKcmyk color mode, depending on the printer.
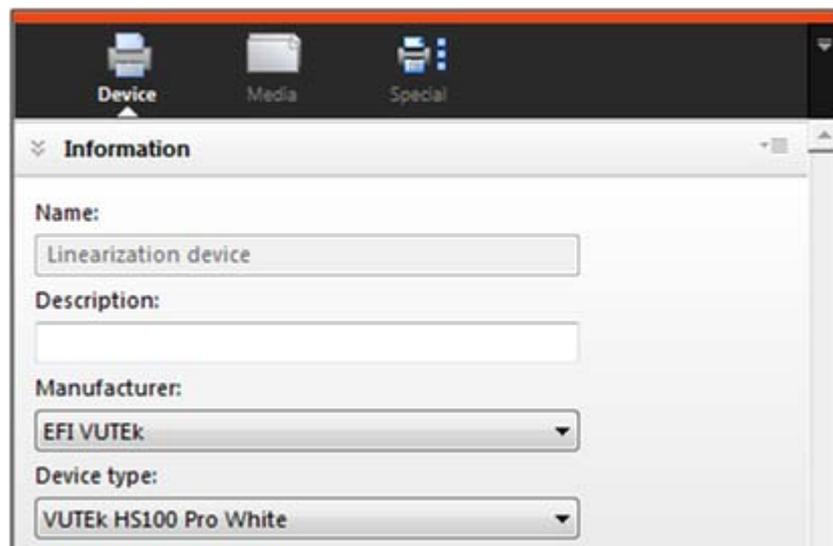
A linearization for white ink cannot be added to an existing EPL base linearization. However, you can open an existing EPL, and make a note of the ink limits, and black point etc. displayed in the "Summary" step to simplify the process of re-creating the linearization.

TO CREATE A WHITE LINEARIZATION

1   **Right-click the output device, and click "Linearize Device".**

The wizard for creating a base linearization opens.

On the "Special" tab for the output device, the white ink printing mode changes automatically to "Bounding box". This setting enables the charts to be read correctly.

2   **Under "Settings", make your required settings.**

3   **Click "Next" to proceed to the "Light norm ink build" window.**

4   **Click "Print" to print the charts.**

Whatever color mode is selected, Fiery XF outputs an additional chart in the same layout. This chart contains the white ink patches. Measure all the charts as usual.

Important:

The linearization curves for white ink vary, depending on whether you select one or two-layer white on the EFI VUI. You must decide whether you want to print the charts with one or two layers of white, and stick to that choice.

The only exception is if you create a linearization for one-layer white, and the color of the media makes it difficult to measure, for example, the yellow light/norm chart, or the resulting linearization curve looks bumpy. Printing only that chart (e.g. for the yellow patches) with a two-layer white can solve the issue.

You can review the resulting linearization curves as calculated by Fiery XF at the bottom of the screen for the process colors Cyan, Magenta, Yellow and Black:
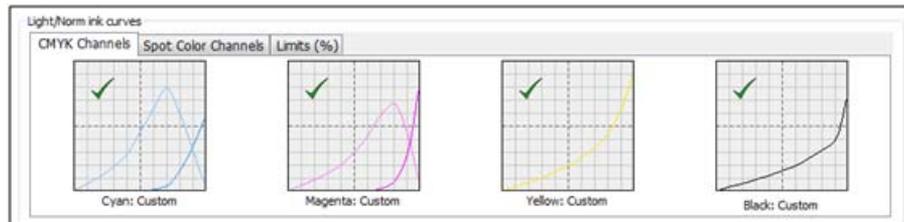
'By switching to the "Spot Color Channels" tab, you can see the resulting linearization for the white ink channel. The example below shows how Fiery XF compensates for the strong dot gain of the white ink:
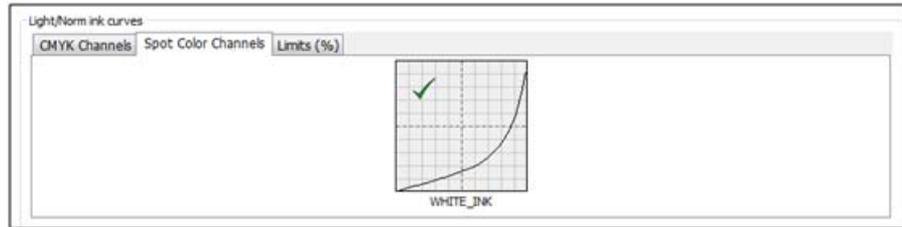

The "Limits (%)" tab lets you apply pre-ink limits to the color channels. There is one general pre-ink limit for C, M, Y and K and one specifically for your spot color, which, in this case, is white:
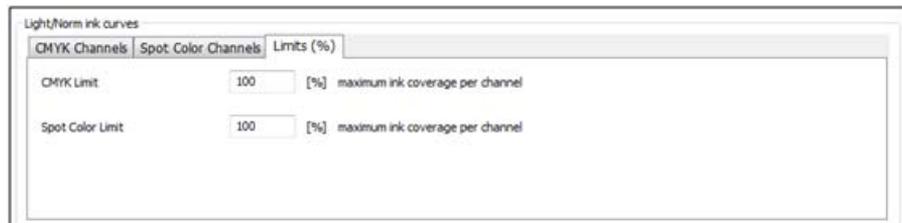
The pre-ink limits are applied *before* the linearization. So, if you limit an ink to 80%, the 100% patch in the linearization will be printed with 80% ink.

Do not apply pre-ink limits below 100% to either process or spot color, unless it is absolutely necessary, such as if the ink is too thick or there are visible mottling effects, etc.

5 Click "Next" to proceed to the "Physical Ink Limit" window.
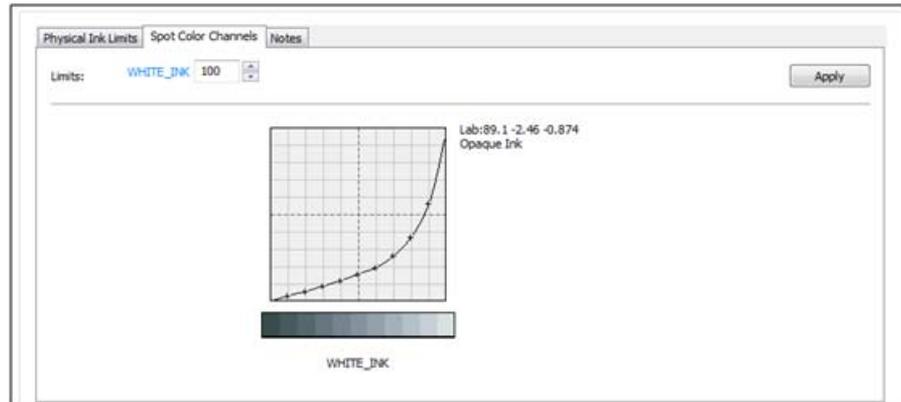
On the "Spot Color Channels" tab, you can move your mouse pointer over the linearization points to display the resulting L*a*b* values.

The displayed gradation below the linearization curve is color managed. The left side of the gradation represents the color of the media (black foil in the example), whereas the right side represents the white ink.

You can apply an ink limit to your white ink channel. For example, if Fiery XF has calculated a linearization curve for the area between 0-100% and you decide to limit white to 80%, the linearization curve will be re-calculated for the area between 0-80% and will ignore ink usage above 80%.

However, be aware that a white ink limit for EFI VUTEk printers is usually not required, and should be left at 100% unless you see unwanted effects.

Complete your EFI VUTEk linearization in the usual way, and continue with profiling afterwards.

It is recommended that you add the term "White" to the name of your EPL so that you can easily identify it as containing a linearized white. Also, it is a good idea to include the term "one-layer" or "two-layers" as a reference to your VUI setting at the time of the linearization.