StudioPrint Practices with Piezography inks.

StudioPrint RIP by ErgoSoft is a unique RIP product because it is the only RIP which has direct support for up to seven shades of Piezography ink with a built-in profiling application. The RIP is licensed according to printer size but any number of printers can be controlled at or below that size with one license purchase. There is a version for 24” and smaller, and a version for 84” and smaller.

The supported printers for Piezography (has seven shades black) are the Epson 3800, 4000, 4800, 7600, 7800, 9600, 9800 and Roland FJ and SJ printers. Unofficially, the 7880 and 9880 can be selected by using the 3800, 4800, 7800 or 9800 setup.

StudioPrint is a full color RIP and we will not look at those features in this topic. Rather we will concentrate on the features as they pertain to Piezography inks printing. But if you do decide to invest in StudioPrint RIP for Piezography printing, the same license allows you to print with your color printers!

First things first: StudioPrint uses something they call an Environment to store all of the information needed in order to make a print. An Environment stores things like the settings that are used to print such as dithering patterns, resolution, print head speed. It also stores the printer port used such as a USB port or a TCP/IP port. It stores the printing inks setup which describes what ink is used where (this one is particularly powerful.) And it stores a linearization table which when used with Piezography inks, can be considered to be a “profile.”

Without having to tinker endlessly in settings, it is possible to get great results by using a canned Environment and adjusting a few things, performing an inks linearization, and printing. Your results should be great!
The Add Print Environment for the EPSON 7600/9600 seems more user-friendly than that for the 7800/9800 because it has a QuadTone setting. It even has a 7 Black Tone setting. But these are simple sub-sets of the main Environment example for these printers. We will make an environment for the 9800 which does not have a Quad or a 7 Black Tone starting point.
In the Print Settings Window: Quality, there are several panes to adjust (General, Quality, Port, Extras, Printing Inks Assignment, Media Size, and Device Options.)

In this example we are setting the resolution to 2880x1440. However, you should also try to make an Environment at 1440x720 that is often adequate for high quality seven black printing.
Print Settings Window: Printing Inks Assignment when used as a color printer.

You should print out the Print Ink Assignment by clicking on that button in this window. If you click on that button, and then select Monochrome Black as an option, you will be able to assign seven different blacks to the window assignment above. The eight position we will turn off!
Print Settings Window: Printing Inks Assignment. Set up correctly for Piezography pre-filled carts.

There are a number of other options we can set in StudioPrint but you can refer to the StudioPrint documentation for Media Size and Device Options. The next step is to linearize the seven shades of black. The above settings are correct for the Piezography K7 ink sets. Click OK to save.
This new environment will now be listed as active in StudioPrint’s layout manager.

You can proceed to making a profile for the seven shades of black ink. But first make sure you have installed your Spectrophotometer and can select it from the Tools/Options menu. If you can not detect it, perhaps you have not installed the software driver for it.
Linearization process is a bit different for each of the supported Spectrophotometers, but the philosophy is the same…

I like to follow this workflow.

1) I select 40 patches to print and measure. I save this without making any adjustments.
2) I repeat with 40 patches again, and I print, measure and save this over the first.
3) I repeat this time with 80 patches, again saving over the previous.
4) Finally, I print 80 patches again, measure for the final time, and the only adjustment I make is to limiting it to greatest dMax density. It might be the 80th patch. But usually it is not. Perhaps the 79th, the 78th … The density window shows it when you scroll down. Find the greatest density, select it, then click on Limit at selected patch. Now when this is saved, the inks will be at their smoothest from paper white to maximum possible black.
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