ONYX

THRIVE
INFORMATION FOR GROWTH

July 2009 Issue

What's New:

ONYX News You Can Use

Updated Driver for the Seiko ColorPainter V-64s for Version 7.3

ONYX worked closely with Seiko to produce an updated quality driver that provides the maximum range of functionality and user control.

The new Seiko ColorPainter V-64s driver includes profiles for 6 medias with 18 different modes. These modes include:
CMYKcm Draft Mode – 5 Industry leading media including banner and adhesive vinyl.
CMYKcm Normal Mode – Industry leading media including banner and adhesive vinyl.
CMYKcm Hi Quality Mode for adhesive vinyl.

These media profiles include ICCs that are generated with the ONYX Graphics ICC Profile Generator for maximum gamut and color accuracy and reproducability. You can expect outstanding color results, using the included media profiles.

The ColorPainter V-64s driver from ONYX supports the full user control of heaters from within the driver settings and also supports console control for the heaters through the software. It also includes bi-directional communication and support of the printer's ink reporting functionality.

This driver is included with new purchases of ONYX Graphics PosterShop, GamaPrint Pro, & ProductionHouse products. It may also be purchased through an authorized ONYX reseller.

You can download the ColorPainter V-64s through the ONYX Profile Download Client.

PrepEdge Pro Product Review

PrepEdge Pro is proving to save time and money for print shops worldwide! Read about Mark Rugen's experiences as he tested the effectiveness of PrepEdge Pro in his recent review.

"… we wanted to see how much this program can eliminate the prepress need for Photoshop, Illustrator and other design software, how the PDF workflow works, how time is reduced by the reported 75 percent, and if the program truly is RIP independent" states Rugen. " I am sure I missed a few features, but in my estimation, this is a real winner! It certainly lived up to all the claims. Based on my testing, and some of the testimonials of those already using this program, it's worth every penny!"

Read the full review from Mark Rugen here.

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Hot Shops:
A Monthly Spotlight on Innovative ONYX Partners

Latex Printing Is Big Business for Suan Digital in India

Suan Digital is well known for its indoor printing quality and service, nonetheless, Mr. Sudhir Phadke, Managing Director, wanted to improve the overall productivity of his organization. So, he added a latex printer to his operation and installed an ONYX RIP to run the new printer. With this new solution in place, Mr. Phadke feels his workflow has become easier, more convenient and helped increase the overall productivity of his organization. In fact, in just one month, Suan Digital has printed more than 10,000 square feet on HP Latex.

Cool Stuff:
Cutting-Edge Printing Projects

Fine Art on Demand

Art on Demand is a very successful fine art digital printing operation in Spain that uses ONYX RIP software in a unique manner to make money. With thousands of well-known art masterpieces digitally stored on a central web server, customers of Art on Demand (visitors to a museum for example) use a kiosk to select a piece of artwork and receive their print minutes later from a nearby station. Customers love the easy-to-use kiosk and appreciate the high quality replication prints they quickly receive. Powered by ONYX, the backend system is heavily relied-upon to archive the files and consistently enable the highest quality prints. Art on Demand even uses ONYX to ensure the security of the files, which makes sure each job order can only print once to accommodate the royalty arrangements. Art on Demand is finding this operation so successful that they are expanding and looking for international distributors worldwide.

ONYX@Work:
Improving Productivity and Profitability with ONYX

Automated Settings and Spot Color Matching

Using ProductionHouse, the production team of BT&D Big Graphics Inc. (East Dundee, Illinois) is able to automate settings for various media such as rotation, resolution, color profiles and filters for spot colors. ONYX ProductionHouse has allowed BT&D to produce large format graphics quicker and more consistently than ever before. "ProductionHouse takes guessing out of the process, plus we don't have to 'reinvent the wheel' every time we print," says Bryan Kennedy of BT&D Big Graphics Inc. "Before, we would print and modify, print and modify and repeat again until we hit the mark." Using ONYX color management tools, BT&D Big Graphics has reduced costs by saving time and ink/media. Not only that, they ensure when they reprint an item six months later, it will match previous prints. In fact, year over year, Bryan's team returns to the color profiles setup in the past to get the results they need today.

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Product Feature Focus:

Helping You Get the Most Out of Your Software

Quick Recalibration with the RIP

Ever notice that Recalibrate button at the top of the main RIP-Queue window? This little feature can save you time while keeping your printers consistently reproducing colors.

Over time, inkjet printers can naturally have a drift in color. Factors like drastic humidity changes, normal printer wear and media manufacturing changes can affect color consistency on your inkjet printer. That's why ONYX RIP products include calibration and recalibration features.

Recalibration in ONYX software is easy. It's a simple process that can get your printer producing balanced greys and matching spot colors again. You can use the quick recalibration feature with just about any hand-held or strip-reading color measurement device. You can also use it with some printers that have on-board color measurement devices, like the HP z6100.

From RIP-Queue, simply select the printer you want to recalibrate, and follow these steps:

1. Click the Recalibrate Mode button on the toolbar. This opens the Recalibrate Mode dialog.

2. Select the mode you want to recalibrate from the drop down menu. Print your Calibration Swatch by clicking the Print button.

3. Once the swatch is printed and dried, Read the Calibration Swatch by placing the swatch in your reader and clicking the Read button. You will need a reading device for this step.

4. After the swatch is read, click the Build Linearization button. This opens the Linearization dialog. From here, you can view your current measurements and modify your settings.

5. When you are done, click the Build button.

6. Click OK.

PrepEdge Pro PDF Editor

Over 70% of Production Managers say the biggest bottleneck in their production workflow is job preparation.

Not all shops can afford highly-trained professional designers for wide-format job prepress. The result is Prepress operators struggling with multiple design programs to fix file problems and correct colors. ONYX PrepEdge Pro addresses all of these issues for prepress operators, regardless of their skill or background.

(Continued on the next page...)

One of the best features in PrepEdge Pro is a PDF editor, which not only reduces prep time, but also helps assure that jobs don't get into production and then bounce back to prepress because something wasn't right with the job.

Why is a PDF Editor so important for print shops?

Unlike native design application file formats, PDF files already have output spot colors and multiple image color spaces defined. Just by opening a PDF file in a design application it can flatten the file and drop critical color rendering information. This introduces all kinds of problems in your production workflow that take precious lead time to resolve.

With the PDF Editor in PrepEdge Pro, working with PDF files is a breeze. Prepress operators can quickly and easily check and fix spot colors, as well as color correct individual images in their unique color spaces. Operators can also see and fix PDF transparency issues, add white ink layers and fix fonts – all without disturbing the original PDF file color information. The result is faster prep time and fewer mistakes in production.

There are other PDF editors on the market, but PrepEdge Pro is the only one that gracefully handles the large file sizes of today's wide-format jobs. It's also the only one that includes all the wide-format job preparation tools shops need, including banner grommets, tiling templates, and contour cutting. Regardless of whether prepress is on a Mac or PC, or you have multiple RIP products in your shop, PrepEdge Pro streamlines your production workflow.

Don't Get Left Behind

The print shops using the new ONYX PrepEdge Pro have dramatically reduced their job preparation time and the number of problems that could lead to costly mistakes and missed deadlines. It's given these shops a competitive edge and new business opportunities in a challenging economic climate. PrepEdge Pro is a software investment with a real Return-On-Investment.

To see the PDF Editor and other PrepEdge Pro features in action, sign up for one of our 15 minute webinars at www.onyxprepedge.com.

Tech Tip:

Quick Tips for a Smooth Workflow

Benefits of Using the Color Matching Table

The color matching table is designed to help achieve more accurate matches to both PANTONE and user-defined colors. Use of the color matching table allows certain spot channels to have a direct L*a*b* replacement at RIP time instead of having to go through the input profile. This can help avoid color shifts that can occur in the input to output profile translation.

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Enabling the Color Matching Table

Turn on the color matching table in your Quick Set. To enable this for a Quick Set go to edit Quick Set and select the Quick Set you want to edit. Go to advanced->postscript and check use color table. Now any jobs that are brought in through this Quick Set will use the color matching table.

Aliasing and Adding Custom Colors

There are some PANTONE colors that are supported by other applications, but are not directly supported through the ONYX color matching table. In order to handle these colors you will need to alias them to another similar color that is supported by the color matching table, e.g. mapping PANTONE 232 V to PANTONE 232 CVC. To do this, open the RIP-Queue and go to setup->postscript->color matching table. Highlight the color you want to map to, and click add alias. Type the unsupported colors name in the alias name field and click OK. All spot channels named PANTONE 232 V that are matched using the color matching table will now be mapped to PANTONE 232 CVC. You can also add custom spot colors to the color matching table. Do this by clicking on the user defined tab and clicking add. Give the color a name, and either manually enter its L*a*b* values, or use a supported color device to input the L*a*b* values for this color.

More information on this subject can be found by searching the Knowledge Base in the Support Area of the ONYX Website.

Max-imize Your Color:

Tips from our Color Scientist Max Derhak

Understanding Calibration

Color management relies heavily on the ability to capture and maintain how each print mode prints. Getting repeatable and consistently reliable results is an important aspect to this. Calibration and recalibration are paramount in achieving consistency for each print mode. In this article we will take a look at various aspects of calibration and recalibration.

Calibration and Recalibration

The major goal of calibration is to provide a well defined, stable, and reproducible state for printing. Recalibration is a process that is used to maintain or get back to the state of printing achieved when calibration was first performed.

Calibration is performed using processing channels. A processing channel may combine multiple concentrations of ink into a single conceptual value (i.e. light cyan plus dark cyan result in a cyan processing channel). Processing channels are defined by the steps before the calibration step in Media Manager (i.e. ink restrictions/OEM dot pattern settings). The process of print mode calibration is made up of the calibration, target densities and linearization steps in Media Manager.

Step 1. Calibration

In the calibration step in Media Manager, output levels for each process channel are printed and optically measured to establish how each process channel is functioning. Density measurements are used to get an estimation of how much ink is present. Density is a logarithmic measure of how much light is absorbed by the ink printed on the page. The more light absorbed, the higher the density. Greater light absorption is also an indication of a greater amount of ink on the page. Thus, a higher density value indicates a greater amount of the effect due to ink on the page (more ink).

Density measurements also allow the determination of dot gain (which is an indication of how the ink is controlling light reflected from the surface). There are two aspects to dot gain:

Physical dot gain – This is related to how big the dots are physically on the paper. Things that can impact physical dot gain include (among other things) drop formulation, drop volume, ink viscosity, and ink absorption by the media. Dot gain occurs if the area covered by ink is greater than the area expected to be covered.

Optical dot gain – This is related to how light enters and exits the surface near and through the printed dots. Optical dot gain occurs when light either enters through a dot and exits outside the dot, or enters from outside a dot and exits through a dot.

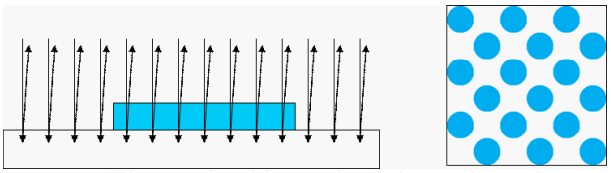

Figure 1 – No optical dot gain

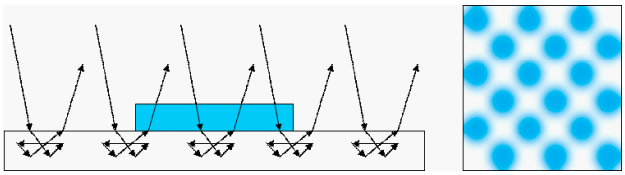

Figure 2 – Optical dot gain occurs when light entering ink is scattered by media causing dots to appear fuzzy and paper to appear darker.

Step 2. Target Densities

In the target densities step in Media Manger, the calibration data measured earlier is used to determine target densities for percentages of each process channel. This step has two modes of operation:

"Basic Density Curves" defines target densities with an algorithmic approach using the minimum and maximum measured densities. This generally results in a fairly linear progression from paper to full coverage for each channel. No consideration is made for how combinations of the channels will print.

"Advanced Grayscale" mode involves first printing patches with combinations of process channels, measuring these patches colorimetrically to get a perceptual estimation of color, and then using this information to define target densities that either achieves some level of gray balance or some other desired color characteristics.

Step 3. Linearization

In the linearization step, the target densities defined in Step 2 are mathematically combined with the measurements performed in Step 1 to create a conversion map (a linearization or tone curve) that adjusts how much ink to use in each process channel to achieve the desired target densities. This calculation is demonstrated in Figure 1.

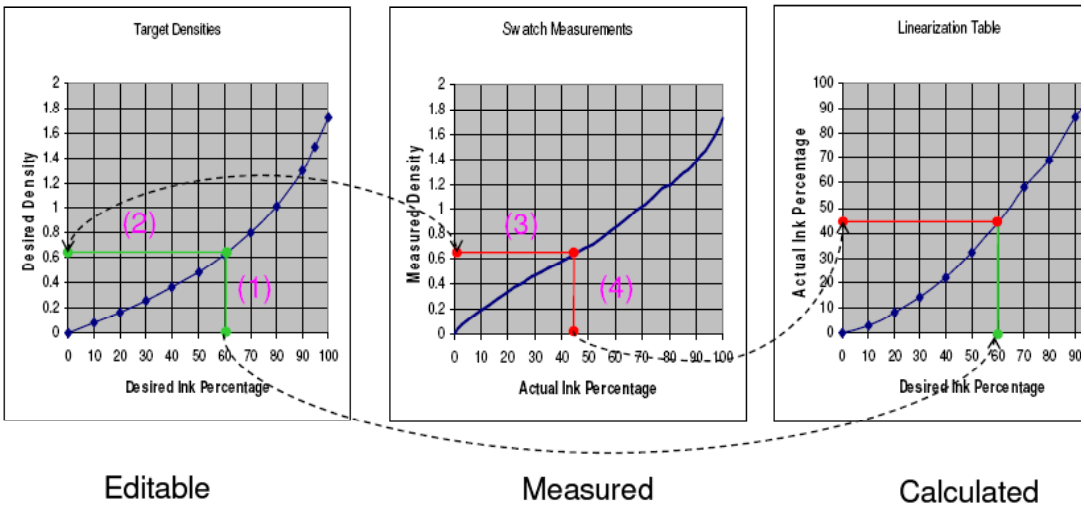

Figure 3 - Calculation of Linearization table

When processing colors for printing, the linearization/tone curves are used to ensure that results are consistent and repeatable. Ink limiting and ICC color profiling are then performed based upon the print mode being in a measurably known state, the state being defined by the target densities and the linearization table.

Recalibration

Having target densities allows for recalibration at some point well after the calibration process has been performed to return a print mode back to its calibrated state.

When doing recalibration, the output levels for each process channel are printed out again and optically measured to establish how the process channels are currently functioning for the print mode. These recalibration measurements along with the previously established target densities (which are not redefined) are then used to define an updated linearization table that brings the printing back to the same state it was in when the calibration was first performed.

Since target densities are specified as desired density measurements, it is important that the same kind of density measurement be used when performing a recalibration.

Beware: Not all measurement devices will return the same measurement of density for the same color. If this happens, a recalibration may result in the print mode not being in the same state as the initial calibration. When this happens, the printed output may be incorrect, and the ICC color profile associated with the print mode may need to be reprinted and rebuilt. To avoid this situation it is generally a good idea to use the same kind/manufacturer of measurement device set up in the same way that was used to perform the initial calibration.

Need for Recalibration

The state the printer is printing in can drift over time due to various reasons which introduces the need to do recalibration. Some of these reasons include:

- **Temperature and humidity:** Both can affect dry time, dot gain, and potential density.
- **Missing or malfunctioning nozzles:** When nozzles become clogged the potential density is changed and recalibration should be performed. This can result in the maximum achievable density being reduced. Posterization of the output (as a result of re-calibration) can occur if the "Desired Target" measurements specify a target density for 100% that is greater than what can currently be achieved. This is why ONYX recommends only defining default target densities at 95% (not specifying the target for 100%) to allow for potential loss of ink volume during recali bration.
- **Replacing print heads or ink:** Replacing print heads should always be viewed as requiring recalibration, as should ink replacements.
- **New roll or package of media:** Because different lots of media can have minor differences in coatings, it is appropriate to recalibrate when changing to a new roll or package of media.
- **Wear and tear on hardware:** Because hardware is prone to changes in physical tolerances, some degree of recalibration needs to be done based on time in service.
- **Other maintenance:** Much like wear and tear, updating hardware and replacing parts, service calls and alignment procedures should always be followed by recalibration.

Tips and Tricks

- Do not drag target densities to 100% when creating new print modes.
- If target densities for 100% are defined, they should be set to values that can always reasonably be attained - not set to the current maximum densities.
- Use the naming feature in subsequent recalibrations to enter the date of recalibration, or other easily recognizable information to keep track of the last recalibration performed.