Symphony

HARMONIZE OUTPUT

ARTWORK SYSTEMS

Symphony™ is a total solution for device calibration, press compensation and range optimization synchronized with color management.

The Symphony calibration system is based on two principles. First is the principle of multiple and independent curve selection. Second, is the separation of powers. With Symphony, the curve creation function is separated from the curve selection function.

The result is a dramatic increase in simplicity and accuracy!

" **Symphony** *makes your output devices sing the same tune* "
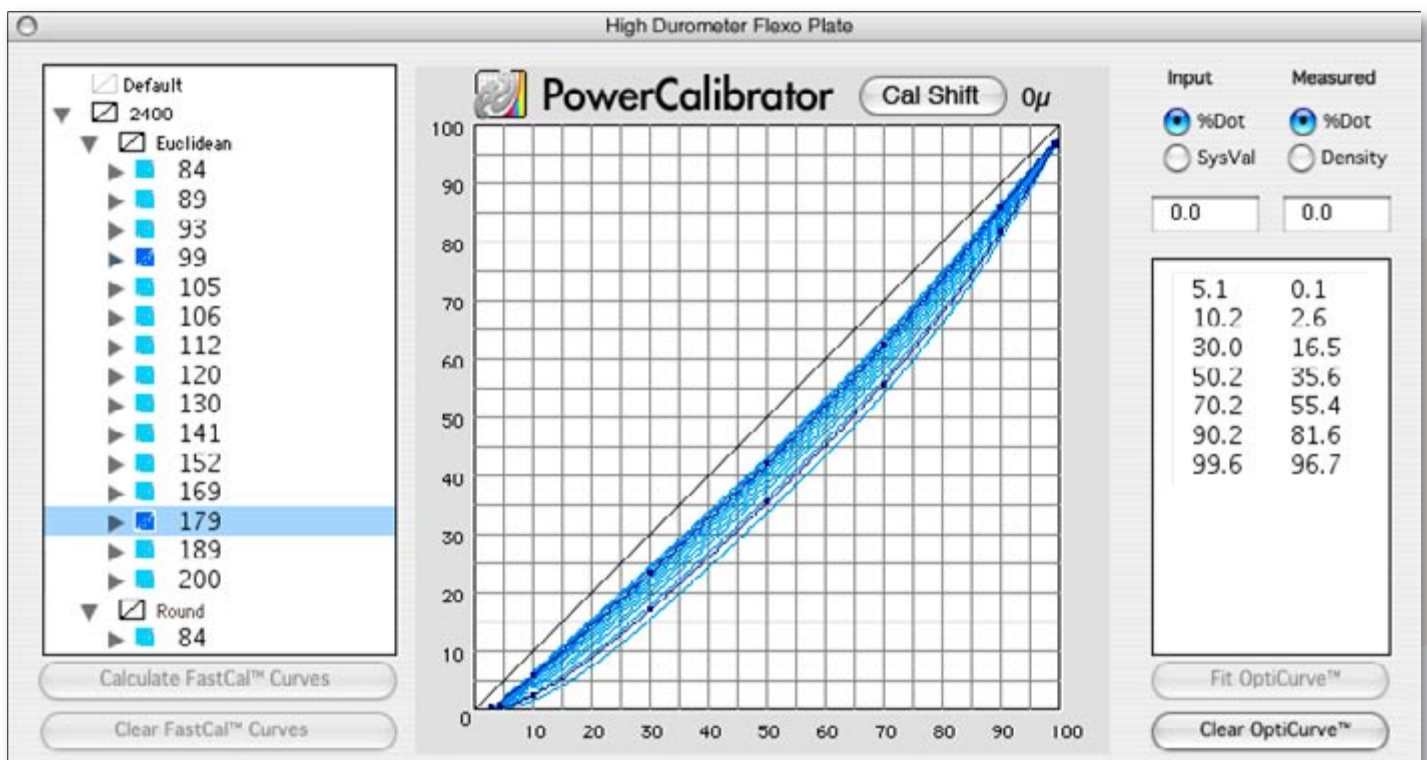

Multiple Curve Selection

The final curve to be applied to digital data is a function of many variables – not just the press. Symphony makes it simple.

Traditional Approach (single curve) — The traditional approach is for the operator to make a single curve (or at most an imagesetter calibration curve and a press cutback curve) to compensate for the entire pre-press and printing process. If any component of the system changes – even the screen ruling – the entire system from pre-press through press must be re-characterized.

Symphony Approach (multiple curve) — Up to five separate curves can be selected independently. Functionality is effectively divided into two categories: pre-press and press. A separate curve for range optimization is accessed through the click of a button. Individual curves are combined in the Nexus processor to create a final curve with unprecedented accuracy and smoothness. When one step in the process changes, only that step – not the entire process – is recalibrated.

PowerCalibrator™

With Symphony, all curves are created in **PowerCalibrator™** a powerful application designed specifically for curve creation. PowerCalibrator is light years ahead simple 'connect-the-dots' calibration programs. Advanced OptiCurve™ curve fitting and FastCal™ automatic calibration technology combined with AutoMatch™ true hierarchical database functionality enable curves to be made for imagesetters, CTP devices, proofers, presses, or anything else!

OptiCurve™ — PowerCalibrator's unique curve fitting technology reduces the number of measurement points and assures a smooth curve. Many curves can be accurately created from as little as three sample points; extreme curve from as little as 5 to 7 points!
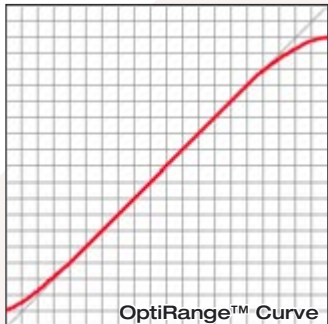
FastCal™ — This unique technology enables curves for all screen rulings to be calculated based on the curves from as little as two screen rulings. This reduces calibration time from hours to minutes and assures that a curve for each of your screen rulings is available.

Cal Shift™ — Based on the measurement of a single point, all points on all curves can be recalculated for on-going changes in calibration. Reduce recalibration time to seconds.

AutoMatch™ — Eliminate the need for operators to search the database to find a curve for their specific screen ruling. With AutoMatch, the Nexus workflow automatically finds the right curve.

Range Optimization

Traditional approaches to setting minimum and maximum dot size result in lost grey levels and detail on both ends. **OptiRange™** technology applies range optimization through curves – not limiters or cutoffs. The result is precise control with improved quality.

In addition, OptiRange provides true three dimensional control. Min and Max dot sizes (*dimension 1*) can be set to original grey levels (*dimension 2*) 0 and 255, or any other grey levels. End Effects (*dimension 3*) can be set to Hold or Drop.

OptiRange™ Curve

A common flexo example is to set the min dot (e.g. 0.8%) to grey level 1, and the highlight end effect to drop grey level 0. This enables a clean drop off and eliminates the need to hold all dots. Independent curve control, assures that dot sizes are not affected by 'downstream curves' in the system.

Ultimate Flexibility

Your calibration/press compensation strategy can be as customized or as standardized as you like.
To run **FlexoCal™**, simply make a single curve file of your over-exposed imagesetter and change the 'press' selection to *FlexoSync*. To upgrade to CTP, simply make a curve file of your digital flexo plate. Adding different imagesetters, plate setters, plate materials and the like is a matter of making an additional curve file.

HIGHLIGHTS

- Multiple and independent curve selection

- Extremely fast calibration

- Range optimization through the click of a button

- Increase in simplicity and accuracy

- Unique curve fitting

- Automatic curve generation

- Recalibrate for on-going changes

- Compatible with ICC profiles

Symphony DELUXE

PowerCalibrator and Multiple Curve Selection are part of Symphony which is included in Nexus™ 8.0.
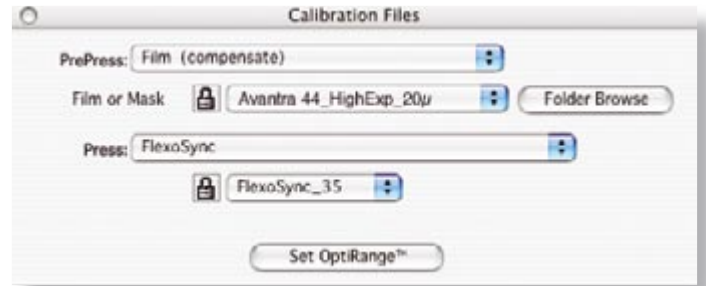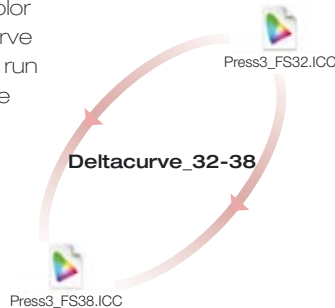
The **Symphony Deluxe™** upgrade includes OptiCurve™, FastCal™, OptiRange™, and the LithoSync and FlexoSync Curve Systems.

Synchronized Curves

A Synchronized Curve System is composed of two types of curves: output curves, and delta curves. **Output curves** are the basic curves applied to compensate for press conditions. **Delta curves** represent the difference between two output curves and are added to ICC profiles to improve color management.
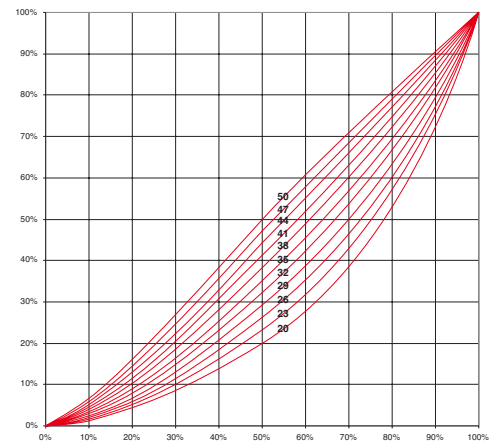
Symphony includes **LithoSync** and **FlexoSync** curve systems. Each system contains a set of standard output and delta curves. The name of the output curve indicates the value of the midtone dot. *FlexoSync_35*, for example, is a curve in which a 50% dot is reduced to 35%. Specifying a complete curve is as simple as specifying a single number. Results are smoother than even the best operators can make by hand.

Delta curves extend the principles of Symphony to color management and are compatible with ICC profiles made by all profile vendors. Delta curves enable a press to be characterized for color management with one output curve applied, then for production to be run using a different output curve. The user simply adds the delta curve to the ICC profile.

FlexoSync curves can be changed at any point in the future without re-characterizing the press. Simply add the new delta curve to the ICC profile. In many cases, printing conditions can change without requiring a press characterization. For one-dimensional changes (dot gain) just change output curves and add the corresponding delta curve to the ICC profile. With Symphony's synchronized curve systems, a single ICC profile can be used for all presses in a printing plant that differ only in dot gain.

Press3_FS32.ICC

Deltacurve_32-38

Press3_FS38.ICC

FlexoSync™ output curves

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