

Xerox Versant 80 Press with EFI EX 80 External Fiery Print Server

80 PPM COLOR PRODUCTION DEVICE

OCTOBER 2015
NORTH AMERICAN EDITION

- ★★★★☆ **Media Handling**
- ★★★★★ **Productivity**
- ★★★★☆ **Image Quality**
- ★★★★☆ **Ease of Use**
- ★★★★☆ **Job Management**



Testing Method: The unit was evaluated at the manufacturer's facilities in the US over an intensive five-day test period during which 42,562 impressions were printed spanning ten different media types, including coated and uncoated stocks, with weights ranging from 80 gsm to 350 gsm and sizes ranging from letter to SRA3. Paper used unless specified otherwise was from Domtar's Xerox Paper and Specialty Media Line. All test files were submitted using a Fiery print server.

Tested Configuration: Engine with the latest firmware (as of test date July 2015) with Advanced Oversize High Capacity Feeder, booklet maker finisher and optional Performance Package.

Ratings are based on a five-star system where five is the best. An overall rating for production devices is awarded only for devices that have undergone a full BLI lab test, during which over the course of five weeks, with the device running a full eight hours every day, BLI evaluates reliability, image quality consistency over the course of the test, media registration drift and other media-handling issues.

More information on the Xerox Versant 80 Press with EFI EX 80 External Fiery Print Server is available through bliQ (www.buyerslab.com/bliQ).

Performance Summary

The Xerox Versant 80 Press, as tested with the optional Performance Package and the external EFI EX 80 Print Server powered by Fiery, proved to be a strong choice for print-for-pay and in-plants.

The optional Performance Package enables the device to run heavier-weight stocks with less of the slowdown that usually goes hand in hand with running heavier stocks. With this option, the device is one of just a handful to earn BLI's highest (5-star) rating for productivity and was in fact found to be more productive than most competitive devices in the large majority of productivity tests run, including for both uncoated and coated stock weights for all media types up to 350 gsm, when switching between light and heavy uncoated media, and when switching between letter and ledger output. Also included with the Performance

Package is the inline spectrophotometer (ILS), which allows for automated calibration and for a custom profile to be created for each stock that is used.

In addition to its very strong productivity, the Versant 80 Press shines in its output quality as well, even in default settings, with no need to make adjustments. Configured as tested, the unit delivered remarkably consistent color output, with mean and peak delta E shifts that were among the lowest of its peers on both uncoated and coated media, earning the 5-star rating in this category that only a fraction of tested models have thus far achieved. Solids were very rich, and halftone curves exhibited very close tracking between coated and uncoated media. Font and fine line reproduction was also excellent and among the best seen in testing of production devices to date, earning BLI's 5-star rating in these categories as well. The device features SIQA (Simple Image Quality Adjustment) software, which automates front to back registration, and which also adjusts for magnification, skew and perpendicularity. The simplest registration method seen when compared to competitive devices tested, SIQA automatically calculates alignment profiles for up to 80 different paper types, weight, sizes or even individual drawers, and is far superior to the complicated, time-consuming trial-and-error procedures required for competitive devices. The SIQA software also detects and corrects variations in density.

There are pros and cons to the Versant 80's media-handling capabilities although they are quite good overall, with support for up to 350 gsm stock (300 gsm in duplex mode). Although the device's standard drawers are limited to up to 256 gsm, all paper sources support coated media and duplex printing. On the output side, its 5,000-sheet stacking capacity is lower than those of competing devices and it lacks a perfect binder option, but a Sample Set mode for the stacker allows for mid-run quality checks by generating an additional set to the top proof tray, a capability not offered by competitive devices tested.

On the ease of use front, the Versant 80 provides walk-up simplicity, as the touch-screen control panel is identical to that of Xerox machines in the office space, eliminating any learning curve for operators already familiar with Xerox's engines. The EFI Fiery driver used in testing is well laid out and provides a high degree of functionality and extensive job programming capabilities, as well as robust image quality adjustment options. The waste toner container, drums and suction filter are user-replaceable without the need for specialized tools or advanced technical training. Customers can also be certified to replace the fuser by watching a video provided by support. Job management is excellent via EFI Command WorkStation, a favorite among BLI technicians.

Advantages

- Excellent color consistency in BLI's color drift test
- Excellent font reproduction, rich solids and close tracking of halftone curves between coated and uncoated media
- Less deviation than competitors when measuring front-to-back solid density for black
- More productive than most competitive devices when running simplex and duplex letter jobs for both uncoated and coated stock weights at all paper weights up to 350 gsm
- Excellent productivity when switching between light and heavy uncoated media, handling jobs much more efficiently than its competitors
- Fast throughput speeds when switching between letter and ledger output means the device will be highly productive when incorporating large spreadsheets into financial reports or building plans into architectural design documents
- Standard inline spectrophotometer allows for automated calibration and profiling, eliminating the need for an operator to manually scan target sheets using an external spectrophotometer
- Duplex printing supported for weights up to 300 gsm in both coated and uncoated stocks
- SIQA software allows for automated front to back registration; as many as 80 registration profiles can be stored
- SIQA software further allows for automatic adjustment of density if it detects that density is lighter or darker anywhere on a page
- User-replaceable drums greatly reduce device downtime
- 5,000-sheet staker includes a Sample Set mode that allows for mid-run quality checks
- Near-identical control panel to that of Xerox office engines eliminates learning curve for operators already familiar with Xerox engines

Shortcomings

- Device media catalog at the user interface does not integrate with the Fiery media catalog
- Standard drawers are limited to media weights up to 256 gsm
- Operators are unable to change media settings for unused trays while a job is running
- Stacking capacity limited to 5,000 sheets
- Most paper drawers do not have LEDs indicating amount of paper levels remaining
- No perfect binder option; limited stacking capacity of 5,000 sheets

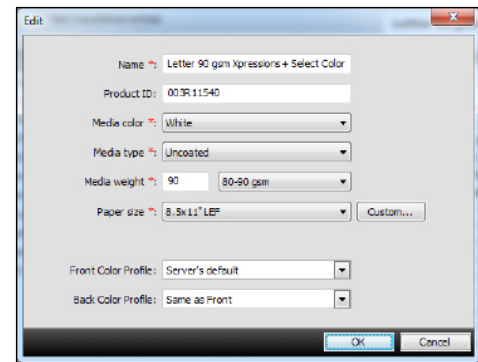
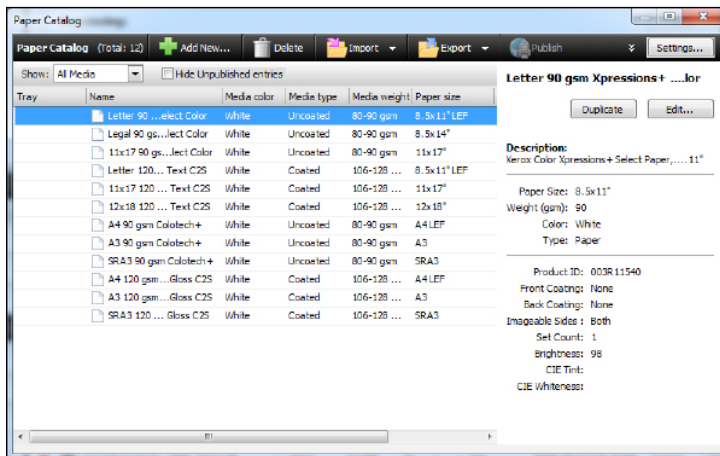
★★★★☆ Media Handling

- + The device media catalog at the user interface offers a high level of customization of the paper tray attributes for the paper loaded in each tray. Selections available include paper size, paper type, paper weight and paper color. Operators can also create alignment and decurler profiles, to reduce skewing and paper curl, for example.
- The device media catalog at the user interface does not integrate with the Fiery media catalog. Because the media types and sizes loaded at the device do not extend to the driver, users must specify the tray they want to use for the job from the driver and make sure the appropriate paper is in that tray. This is a more cumbersome process than simply being able to select a media from the catalog from within the driver and submitting the job to print. A way of avoiding this issue is to assign the media catalog entry from the Fiery paper catalog to a specific tray which will then allow jobs with media programming to be successfully routed.
- Unlike with some other tested engines, which enable an operator to show the weight of paper in each drawer in any of several formats (gsm, or the equivalent weights for cover, index or bond stock), this device displays paper weights only in gsm.
- The unit's standard paper capacity of 1,650 sheets, which consists of three drawers that each hold 550 sheets, is competitive with that of other devices available.
- + The unit's maximum paper capacity of 9,900 sheets is among the highest of competitive devices available.
- The device supports media sizes from 5.5" x 7.2" to 13" x 19.2", which is competitive with that of other devices available. The device's 250-sheet bypass tray supports a minimum media size of 3.9" x 5.8".
- Media weights supported range from 51 to 350 gsm, which is competitive for devices in its class. Some competitive devices only support media weights up to 300 gsm.
- The maximum supported paper weight of 350 gsm is supported through the optional Advanced Oversize High Capacity Feeder, which features two 2,000-sheet trays with air-assist feeding to help with feeding of heavier and coated media types.
- The standard drawers are limited to up to 256 gsm. Some competitive devices support heavier weights from their standard drawers. In addition, unlike with some competitive models tested, air-assist is provided only in the high-capacity trays.
- + Duplex printing is supported for media up to 300 gsm, whereas some competing devices only support duplexing for media up to 256 gsm.
- + Coated media is supported in all the paper sources. In addition, all of the trays are universal, supporting up to 13" x 19.2" media.
- Not all paper sources are loaded in the same way. Paper is loaded face up in the front drawers, but face down in the large-capacity drawers, which could lead to errors.
- + Loading paper in the standard and high-capacity drawers was easy, with clearly labeled

lines indicating maximum paper capacity, sliding guides that lock into place, and stock loading labels on the inside panel of each drawer that detail the correct loading orientation of each stock type. Sensors automatically detect changes in paper size and reflect them in the control panel display. Tabs, transparencies and pre-drilled stock are all supported through the standard drawers and bypass tray. These media types can also be loaded either long-edge or short edge through the standard drawers. BLI technicians also found all of the drawers to be built sturdily.

- In default settings, paper size must be confirmed at the control panel every time a drawer is opened, even if the paper size has not been changed. The option to confirm the paper size and type loaded at the control panel when a drawer is opened and closed can be enabled or disabled via Paper Tray Attributes During Loading, which is accessed under the System Settings menu. Once paper size and type are confirmed, the Xerox machine will resume operation without users having to press the Start key.
- Envelopes are supported through the bypass tray, but are not intended to be a primary media for the system. The optional Oversize High Capacity Feeder can be used for envelopes if the Postcard Bracket is mounted and the stack height is limited to no more than 200 envelopes.
- Paper drawers not currently in use can be opened and loaded while the device is running. The exception is that the two high-capacity feeders cannot both be open at the same time. LEDs on the large-capacity drawers indicate which drawer is currently in use, as well as the approximate amount of remaining paper.
 - Other than the LCDs on the large-capacity drawers, the other paper drawers do not have any indicators of paper levels remaining. Some competing devices include LED lamps on each drawer which can be seen from a distance.
 - Operators are unable to change media settings for unused trays while a job is in operation. Some competing devices allow for this time-saving capability.
- + The interface module, which is standard on the Versant 80's Performance Package and houses the inline spectrophotometer, cools and decurls paper exiting the printer. It is also designed to ensure sheet flatness through the finishing devices. It includes manual curl-up or curl-down buttons (three levels of up-curl correction and three levels of down-curl correction are provided), as well as an auto-decurl function. Preset decurler settings are also available in order to eliminate curl problems.
- The Versant 80 is available with a range of finishing options that were found to be comparable to that of other competitive units available. The tested booklet maker finisher has a 2,000-sheet stacker capacity and can staple up to 100 sheets per set or saddle-stich up to 25 sheets to produce 100-page booklets that can be square-folded and face-trimmed. Xerox's Standard Finisher lacks the booklet-making capabilities and has a 3,000-sheet stacking capacity, but otherwise offers the same capabilities. Both offer two- and three-hole punch and post-process insertion of 200 sheets and can be configured with an optional C/Z folder.
 - Post process insertion is limited to a single 200-sheet tray on the Xerox standard finisher and booklet finisher (with cover insertion offered on other third party finishers). Some rivals offer dual post-process insertion sources.

- + Also available for the Versant 80 are the GBC AdvancedPunch Pro and a Plus version of the Xerox Standard Finisher that features integrated Document Finishing Architecture to enable the Versant 80 to be configured with a range of third-party inline finishing options including Plockmatic and Horizon booklet makers.
- A perfect binder finisher option, offered on several competing devices, is not available for the device.
- + The device supports inline e-Binder finishing, which will automatically punch, comb and bind booklets up to 100 sheets at the speed of the print engine.
- An optional High-Capacity Stacker provides stacking and offsetting capabilities for up to 5,000 sheets. But because two or more stackers cannot be chained together, the maximum stacking capacity of 5,000 sheets is lower than that of some competing engines.
- + The 5,000-sheet stacker includes a Sample Set mode that allows the user to generate an additional set which is output to the top proof tray, allowing for mid-run quality checks—a feature not offered on rival devices tested by BLI. The stacker also provides blinking indicators that alert users to misfeeds in the stacker area.
- BLI technicians noted that the door of the stacker unit was somewhat cumbersome to open. Operators must first unlock the door by pressing a button, and then wait for the unit to lower all the way to the ground before opening it to add more paper. It does feature a roll-away cart for easy unloading of paper.



Operators can assign the media catalog entry from the Fiery paper catalog to a specific tray to allow jobs with media programming to be successfully routed.

★★★★★ Productivity

- The The Versant 80 Press was tested with the optional Performance Package, which must be ordered prior to installation of the system; an existing Versant 80 cannot be upgraded with the Performance Package. According to Xerox, the Performance Package is comprised of All Stocks Rated Software (ASRS), which enables the device to run heavier-weight stocks without the slowdown, or with less slowdown, that usually goes hand in hand with running heavier stocks. With ASRS, the speed of the press is governed by the size of the stock only and not by its weight, so all stock weights up to 350 gsm for a given sheet size will run at the rated top speed for that stock size.
- + The device experienced less slowdown than most competitive devices when running simplex and duplex letter jobs for both uncoated and coated stock for all paper weights up to 350 gsm. In contrast, some devices tested experience significant slowdown with 300 gsm stock or even 256 gsm stock.
- + The device suffered no slowdown when switching between drawers within the same paper-feed module, which is a significantly better performance than seen with the majority of competitive devices tested.
- + The Versant 80 Press exhibited excellent productivity in jobs that involved switching between light and heavy uncoated and coated media, handling such jobs at 98.9% and 99.3% of its rated speed, whereas competitors ran at just 7.1% to 68.4% of their rated speed.
- + When printing simplex letter jobs with printed covers for all media types up to 300 gsm, the Versant 80 Press exhibited a significant productivity advantage over all of its competitors.
- + The device ran at a much higher percentage of its rated speed than competitive units when switching between letter and ledger output. This would be a significant advantage in workflows such that require the incorporation of large spreadsheets into financial reports or the incorporation of building plans into architectural design documents.
- + With ledger workflows on 80 gsm media, the device delivered productivity above its rated speed when printing two-up simplex and two-up duplex, and ran more efficiently than the majority of its competitors tested.
- With two-up simplex and duplex workflows on SRA3 80 gsm media, the device ran at close to its rated speed, which is competitive with other devices tested.
- When using booklet finishing options, the device's results are on par compared with competitive models tested.
- The device maintained rated speed when both single- and double-staple finishing, and when hole punching, which is competitive with other devices tested.
- The device delivered output at 93.2% and 92.2% of its rated letter engine speed in simplex and duplex modes on BLI's hour-long productivity tests on letter-size paper, which is competitive with that of other machines tested.

- + With ledger-size media, the device delivered output at 104.7% and 106.6% of its rated letter engine speed in simplex and duplex modes on BLI's hour-long productivity tests, which is more efficient than that of the majority of competitive machines tested.
- With SRA3-size media, the device delivered output at 87.4% and 89.7% of its rated letter engine speed in simplex and duplex modes on BLI's hour-long productivity tests, which is competitive with that of other machines tested.
- Fully loaded with paper input and output options, the device can run unattended for just 3.91 hours, producing 20,000 letter-size impressions (two-up double-sided on ledger-size media) before attention is required, based on BLI's tested productivity results. This is much lower than that of other competitors tested to date which offer more output stacking capacity to allow for longer uninterrupted printing.
- + EFI Fiery RIP productivity on BLI's large 1,600-page test was faster than that of all competitive models tested to date.

Maximum Throughput Speeds

	Number of Clicks Achieved in an Hour	Letter Impressions per Minute	Number of Operator Intervention Steps	Number of Forced Device Stoppages
Letter Simplex	4,476	74.60	1	0
Letter Duplex	4,430	73.83	0	0
Ledger Simplex	2,514	83.8	0	0
Ledger Duplex	2,559	85.3	0	0
SRA3 Simplex	2,098	69.9	0	0
SRA3 Duplex	2,153	71.8	0	0

Maximum throughput speed over the course of an hour is tested using single-page test documents. The test device is fully loaded with the media and toner supplies prior to job commencement and the stacker(s) emptied. Timing starts after the first page has been output to remove processing and initiation time. Operator intervention times are classified as paper and toner changes and stacker emptying based on a fully loaded cut-sheet device. Forced device stoppages are classified as events that stop the device pending operator intervention such as a stacker unload. In the event that a forced stoppage is required, BLI operators wait until the "stacker full" message appears, then unload the stacker immediately to minimize the delay period.

RIP Efficiency Analysis - Simplex 1,600-Page NASA Test File

	Time to Release From PC (seconds)	RIP Time (seconds)	Time to First Page Out (seconds)	Time for Job Completion (seconds)	Time from Job Release to Final Page (ipm)	Time from First Page Out to Final Page (ipm)*
Simplex 1,600-page NASA test file printed on A4 80 gsm	98.64	1,233.14	45.2	1,233.14	76.68	79.79
Simplex 1,600-page NASA test file sent twice as single-set jobs printed on to A4 80 gsm					78.09	79.56

* BLI analysts noted no delays between the completion of the first job and the beginning of the second job.

Testing of RIP time, imposition handling and first-set-out time is conducted using a 1,600-page PDF with high-resolution images and text elements running throughout the file. The file is sent to the paused PostScript driver print queue at the desktop where the job is allowed to spool completely prior to release, removing the test PC's impact from the test process. Various stages through the job cycle are recorded as seen in the table above. The job is then repeated, this time with the same job spooled twice at the print queue. The queue is released again and the times are again recorded. The times for the second set are taken from the moment the data starts to be fed to the RIP (i.e., when the job first shows the printing message in the print queue).

Maximum Throughput Speed Across Multiple Workflows

Simplex letter 52 to 63 gsm uncoated	80.03
Simplex letter 64 to 80 gsm uncoated	80.02
Simplex letter 81 to 90 gsm uncoated	79.93
Simplex letter 91 to 105 gsm uncoated	79.97
Simplex letter 106 to 135 gsm uncoated	75.77
Simplex letter 136 to 157 gsm uncoated	75.71
Simplex letter 158 to 176 gsm uncoated	75.72
Simplex letter 177 to 220 gsm uncoated	75.79
Simplex letter 221 to 256 gsm uncoated	75.79
Simplex letter 257 to 300 gsm uncoated	75.73
Simplex letter 301 to 350 gsm uncoated	75.78
Simplex letter 52 to 63 gsm coated	75.77
Simplex letter 64 to 80 gsm coated	76.28
Simplex letter 81 to 90 gsm coated	75.67
Simplex letter 91 to 105 gsm coated	75.73
Simplex letter 106 to 135 gsm coated	76.15
Simplex letter 136 to 157 gsm coated	76.11
Simplex letter 158 to 176 gsm coated	76.15
Simplex letter 177 to 220 gsm coated	76.11
Simplex letter 221 to 256 gsm coated	75.79
Simplex letter 257 to 300 gsm coated	74.59
Simplex letter 301 to 350 gsm coated	75.84
Duplex letter 81 to 90 gsm uncoated	79.96
Multiple trays letter (same modules) (1)	79.42
Mixed 200 gsm uncoated letter and 80 gsm uncoated letter (2)	79.09
Mixed letter and ledger (3)	80.16
Mixed letter and ledger (4)	76.07
Letter with 158 to 176 gsm printed covers (5)	79.14
Letter with 177 to 220 gsm printed covers (6)	79.18
Letter with 221 to 256 gsm printed covers (7)	72.19
Letter with 257 to 300 gsm printed covers (8)	72.11
2-up simplex on ledger 81 to 90 gsm	87.87
2-up simplex on SRA3 81 to 90 gsm	74.78
2-up duplex on ledger 81 to 90 gsm	88.13
2-up duplex on SRA3 81 to 90 gsm	74.81
Saddle-stitch	70.39
Corner stapling	79.68
Double stapling	77.06
Hole punching	80.54

(1) p1, p10, p20, p30, p40, p48 printed from different tray in the same paper modules, both trays loaded with 80 gsm paper
 (2) p1, p10, p20, p30, p40, p48 printed on 200 gsm media
 (3) p10, p20, p30, p40 printed on ledger-size media
 (4) p11, p21, p31, p41 printed on ledger-size media

(5) p1 and p48 printed on 158-176 gsm
 (6) p1 and p48 printed on 177-220 gsm
 (7) p1 and p48 printed on 221-256 gsm
 (8) p1 and p48 printed on 257-300 gsm

★★★★☆ **Image Quality**

Halftones	★★★★☆
Fine Lines	★★★★☆
Text	★★★★☆
Solid Darkness	★★★★☆
Color Consistency	★★★★☆

- + The Versant 80's SIQA toolset supports a density uniformity adjustment to detect any variation in density of the output and correct it. Available when an operator logs in as an administrator and accesses the Maintenance screen under System Settings, the adjustment is made using two test patterns, one CMYK and one RGB, which are printed; an operator must then scan each test pattern on the document glass, and the SIQA application will read and analyze this data in order to and perform the appropriate adjustment. Once the process is completed, an operator simply needs to select Yes to apply the new parameters to the machine.
- + According to Xerox, the Versant 80 is among the first print engines capable of accepting 10-bit data from the Fiery print server, allowing it to meet the needs of environments which require extremely smooth blends. All other print engines in this class can only accept 8-bit data.
- + In BLI's test for color consistency of 12 corporate logo colors over the course of a 1,000-page run, with calibration conducted before taking the initial reading, the output produced by the Versant 80 exhibited a mean delta E shift of 1.3 on uncoated media and 2.3 on coated media, which are both among the lowest of its peers. The peak delta E shift of 2.6 on uncoated media and 2.3 on coated media are also among the lowest of its peers, and well below the Delta E 4.0 threshold regarded as the point at which the human eye can discern color differences.
- + Solids were found to be very rich, with a high optical density and competitive variance when compared to competitors.
- + Output exhibited close tracking of halftone curves, with very little separation between coated and uncoated, and just slight separation on the middle density levels of yellow and the high density levels of cyan.
- + The device produced output with less front-to-back page black solid density deviation with both coated and uncoated media than its other competitors tested to date.
- When measuring front-to-back solid density for magenta and yellow, the device's deviation was found to be on par with competitors for both coated and uncoated media.
- + When measuring front-to-back solid density for cyan, the device was found to have less deviation from front page to back page with coated media; the device's deviation for cyan was on par with competitors for uncoated media.
- + The device's production of fonts and fine lines earned BLI's Five-Star rating. Font reproduction was excellent, exhibiting well-defined fine lines and line consistency. Samples

were much darker than the next-nearest competitor. Across the board text in all colors (black, blue, red and reverse white on black) was fully formed in all font styles down to the 3-point size on both coated and uncoated paper. In addition, fine lines assessed at 0.1- and 0.25-point thickness were well defined on both coated and uncoated paper.

+ The default settings offered the best image quality with virtually no need to modify or enable settings. By default the print driver has 1200 dpi with Image and Text/Graphics Quality settings set to Best. By enabling Adobe PDF Print Engine Preferred, BLI technicians observed a slight improvement when using coated media.

Overview of Color Drift Analysis

CORPORATE PANTONE LOGO COLOR DRIFT TEST – Uncoated Paper

	Page 250	Page 500	Page 750	Page 1,000	Maximum Drift
McDonald's Gold Pantone 123EC	2.2	2.2	1.2	2.3	2.3
Coca-Cola Red Pantone 485EC	1.9	0.9	1.5	2.1	2.1
FedEx Purple Pantone 268EC	1.1	1.8	1.1	1.1	1.8
FedEx Green Pantone 361EC	1.4	1.5	0.6	1.9	1.9
Microsoft Blue Pantone 279EC	0.2	1.7	1.4	1.0	1.7
Sun Microsystems Blue Pantone 7455EC	2.0	1.8	1.5	1.4	2.0
IKEA Blue Pantone 293EC	1.1	2.3	0.7	1.1	2.3
IKEA Gold Pantone 109EC	0.8	0.8	0.6	1.4	1.4
Time Fortune 500 Red Pantone 186EC	0.4	1.2	0.9	0.8	1.2
Quark Green Pantone 368EC	0.5	1.4	0.7	0.8	1.4
Viewsonic Red Pantone 207EC	0.5	1.2	1.4	1.5	1.5
T-Mobile Pink Pantone Rhod. Red	1.8	2.6	2.1	1.5	2.6
AVERAGE	1.2	1.6	1.1	1.4	1.9

CORPORATE PANTONE LOGO COLOR DRIFT TEST – Coated Paper

	Page 250	Page 500	Page 750	Page 1,000	Maximum Drift
McDonald's Gold Pantone 123EC	1.4	0.9	2.1	0.7	2.1
Coca-Cola Red Pantone 485EC	1.2	1.4	1.1	1.5	1.5
FedEx Purple Pantone 268EC	0.7	1.2	0.4	1.3	1.3
FedEx Green Pantone 361EC	2.3	2.1	1.4	1.1	2.3
Microsoft Blue Pantone 279EC	0.3	0.4	0.6	0.6	0.6
Sun Microsystems Blue Pantone 7455EC	0.9	1.0	1.1	1.3	1.3
IKEA Blue Pantone 293EC	1.2	0.8	0.3	1.1	1.2
IKEA Gold Pantone 109EC	1.0	0.1	0.5	1.2	1.2
Time Fortune 500 Red Pantone 186EC	0.9	0.3	0.4	0.8	0.9
Quark Green Pantone 368EC	1.7	0.9	0.6	0.3	1.7
Viewsonic Red Pantone 207EC	1.5	1.3	0.8	0.6	1.5
T-Mobile Pink Pantone Rhod. Red	1.3	1.2	1.3	1.3	1.3
AVERAGE	1.2	1.0	0.9	1.0	1.4

	Uncoated Paper	Coated Paper
Mean Delta E across all 12 Colors	1.3	1.0
Peak Delta E across all 12 Colors	2.6	2.3

100% Solid Black Coverage Density Measurements

	Uncoated Media	Coated Media
Min. Optical Density	1.61	1.72
Max. Optical Density	1.78	1.84
Average Optical Density	1.71	1.77
Variance	0.17	0.12

BLI assessed solid black reproduction using the default device and driver conditions over the course of a 100-sheet print run, using a 100% coverage document. The BLI test target was sent to print on 190 gsm UPM DIGI Color Laser A3 uncoated media and 200 gsm UPM DIGI Finesse A3 coated media, with density readings taken at nine different locations on the printed output on the 1st, 50th and 100th page using an X-Rite 508 densitometer.

100% Solid Cyan Coverage Density Measurements

	Uncoated Media	Coated Media
Min. Optical Density	1.49	1.69
Max. Optical Density	1.71	1.86
Average Optical Density	1.63	1.77
Variance	0.22	0.17

BLI assessed solid cyan reproduction using the default device and driver conditions over the course of a 100-sheet print run, using a 100% coverage document. The BLI test target was sent to print on 190 gsm UPM DIGI Color Laser A3 uncoated media and 200 gsm UPM DIGI Finesse A3 coated media, with density readings taken at nine different locations on the printed output on the 1st, 50th and 100th page using an X-Rite 508 densitometer.

100% Solid Magenta Coverage Density Measurements

	Uncoated Media	Coated Media
Min. Optical Density	1.54	1.64
Max. Optical Density	1.72	1.78
Average Optical Density	1.64	1.69
Variance	0.18	0.14

BLI assessed solid magenta reproduction using the default device and driver conditions over the course of a 100-sheet print run, using a 100% coverage document. The BLI test target was sent to print on 190 gsm UPM DIGI Color Laser A3 uncoated media and 200 gsm UPM DIGI Finesse A3 coated media, with density readings taken at nine different locations on the printed output on the 1st, 50th and 100th page using an X-Rite 508 densitometer.

100% Solid Yellow Coverage Density Measurements

	Uncoated Media	Coated Media
Min. Optical Density	1.06	1.12
Max. Optical Density	1.17	1.19
Average Optical Density	1.13	1.16
Variance	0.11	0.07

BLI assessed solid yellow reproduction using the default device and driver conditions over the course of a 100-sheet print run, using a 100% coverage document. The BLI test target was sent to print on 190 gsm UPM DIGI Color Laser A3 uncoated media and 200 gsm UPM DIGI Finesse A3 coated media, with density readings taken at nine different locations on the printed output on the 1st, 50th and 100th page using an X-Rite 508 densitometer.

Front-to-Back Solid Black Density Measurements

	Uncoated Media	Coated Media
Front-Page Average	1.65	1.69
Back-Page Average	1.67	1.73
Deviation	0.02	0.04

Measurements are taken on test prints produced using default settings on both uncoated and coated paper using an XRite 508 densitometer. Measurements are based on 15 readings spaced across the long edge of an A3 test chart. The higher the density measurements, the darker the image. Density measurements are taken on both the front and back printed samples, with the front sample being a single-page file and the back printed sample being a duplex print of a two-page test chart with page one blank. An average across the 15 results for each test chart is recorded, along with the mean deviation from the average. The larger the deviation, the greater the difference in density across the page.

Front-to-Back Solid Cyan Density Measurements

	Uncoated Media	Coated Media
Front-Page Average	1.28	1.39
Back-Page Average	1.33	1.42
Deviation	0.05	0.03

Measurements are taken on test prints produced using default settings on both uncoated and coated paper using an XRite 508 densitometer. Measurements are based on 15 readings spaced across the long edge of an A3 test chart. The higher the density measurements, the darker the image. Density measurements are taken on both the front and back printed samples, with the front sample being a single-page file and the back printed sample being a duplex print of a two-page test chart with page one blank. An average across the 15 results for each test chart is recorded, along with the mean deviation from the average. The larger the deviation, the greater the difference in density across the page.

Front-to-Back Solid Magenta Density Measurements

	Uncoated Media	Coated Media
Front-Page Average	1.32	1.37
Back-Page Average	1.35	1.40
Deviation	0.03	0.03

Measurements are taken on test prints produced using default settings on both uncoated and coated paper using an XRite 508 densitometer. Measurements are based on 15 readings spaced across the long edge of an A3 test chart. The higher the density measurements, the darker the image. Density measurements are taken on both the front and back printed samples, with the front sample being a single-page file and the back printed sample being a duplex print of a two-page test chart with page one blank. An average across the 15 results for each test chart is recorded, along with the mean deviation from the average. The larger the deviation, the greater the difference in density across the page.

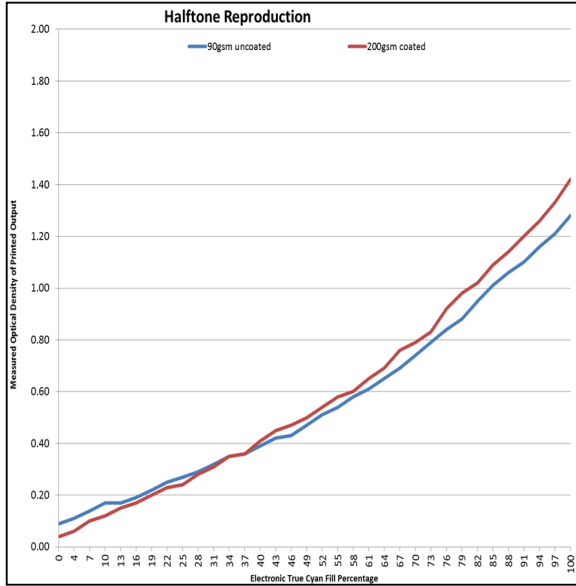
Front-to-Back Solid Yellow Density Measurements

	Uncoated Media	Coated Media
Front-Page Average	0.89	0.93
Back-Page Average	0.91	0.96
Deviation	0.02	0.03

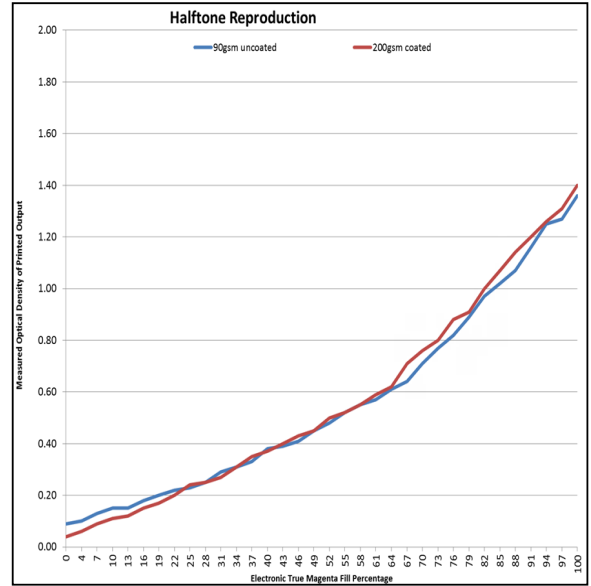
Measurements are taken on test prints produced using default settings on both uncoated and coated paper using an XRite 508 densitometer. Measurements are based on 15 readings spaced across the long edge of an A3 test chart. The higher the density measurements, the darker the image. Density measurements are taken on both the front and back printed samples, with the front sample being a single-page file and the back printed sample being a duplex print of a two-page test chart with page one blank. An average across the 15 results for each test chart is recorded, along with the mean deviation from the average. The larger the deviation, the greater the difference in density across the page.

Halftone Charts

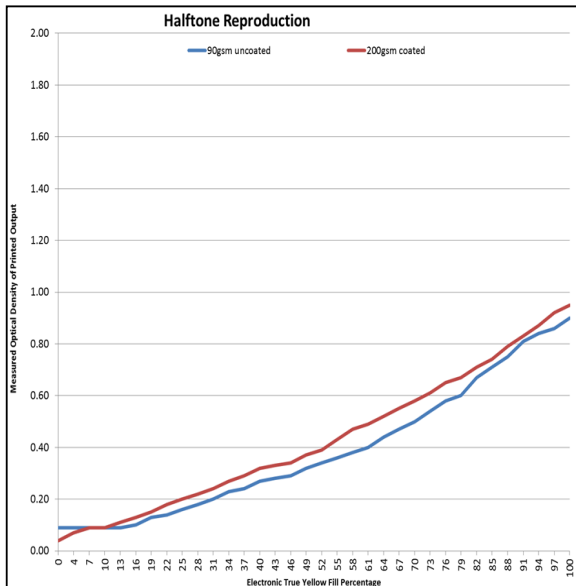
Cyan Halftones



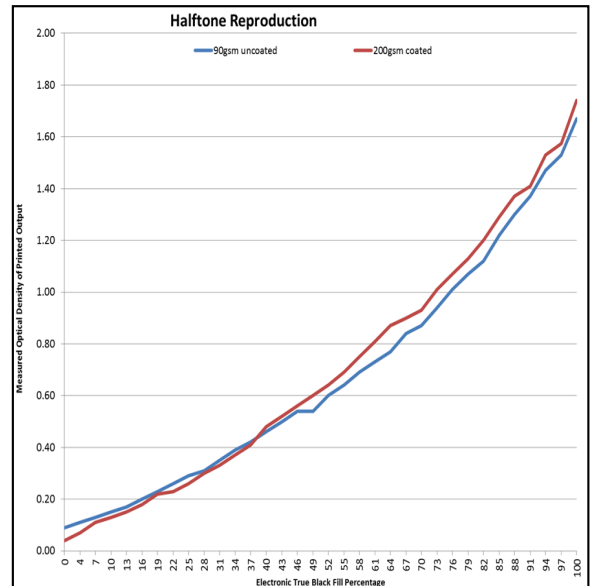
Magenta Halftones



Yellow Halftones



Black Halftones



Overview of Image Quality Test Procedures

Halftone Analysis: BLI uses proprietary test files and the European Color Initiative Altona test file to assess halftone output and qualitative appeal of output. The test files are printed on both coated and uncoated media across a selection of image quality driver settings.



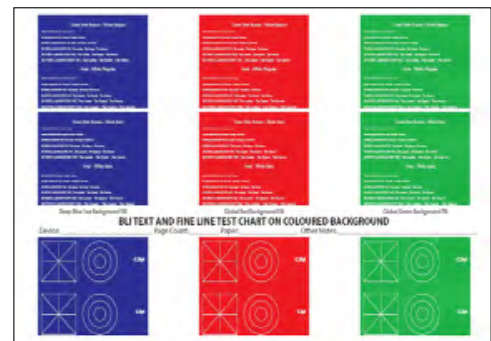
BLI Halftone, Hue and Density Test Chart

Fine Line and Text Analysis: BLI uses proprietary test files created in Adobe Illustrator and converted to PDF at press-quality settings. Files take into consideration both black and color conversion elements in both foreground and background.

Assessments of fine lines and text are conducted using both default and maximum resolution settings. Fine lines are assessed at 0.1- and 0.25-point thickness at 90-degree and 45-degree angles and in concentric circles; fonts are reviewed in Arial (sans serif font) and Times New Roman (serif font) in standard and italic formats down to 3 points. Pixel patterns down to 2 x 2 and 1 x 1 in each of the four primary colors are also checked.



BLI Fine Line and Text Test File1



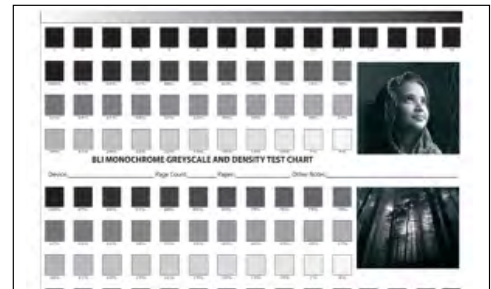
BLI Fine Line and Text Test File 2

Color Drift Analysis: BLI conducts a color drift test on a single short run (1,000 quantity) of a single-page job, assessing drift of 12 corporate brand Pantone process colors at the start and end of the test. Each color drift result represents the drift from the color generated on the first printed page, measured using an EFI ES1000 spectrophotometer and analyzed using Gretag MacBeth EyeOne Share software.



BLI Pantone Corporate Logo Test File

Solid Darkness: BLI uses a four-page proprietary test file for each of the four CMYK colors with 15 patches of solid black distributed evenly across the long edge of an A3 image, with the image repeated on pages one and four, with pages two and three left blank. The document is printed in duplex, and the solid density of the 15 patches on both sides is measured using an XRite 508 densitometer; the minimum, maximum and average, along with the deviation from the average, are reported.



BLI Solid black/grayscale Test File

Solid Fill High Coverage Consistency: BLI assesses solid fill reproduction for each of the four CMYK colors using the default device and driver settings over the course of a 100-sheet print run, employing a 100% coverage document with nine locations specified for density measurement. The BLI test target was printed on 216-gsm Nekoosa uncoated and coated media, with density readings taken at nine different locations on the printed output on the 1st, 50th, and 100th page using an X-Rite 508 densitometer.

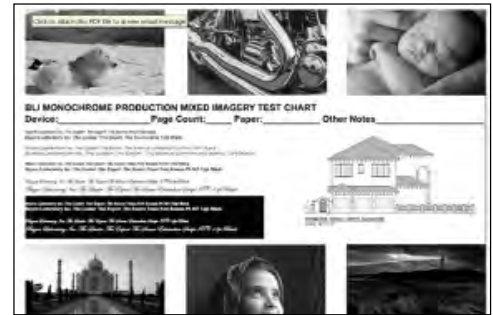


BLI 100% Coverage Solid Black Test File

Mixed-Page-Element Handling: BLI assesses mixed-page-element handling using proprietary and industry-standard test files. Test files are sent using both default settings and with different image quality adjustment options selected. Quality of fine lines, fonts, solids and light/mid and dark contrast halftone images are assessed to determine the best settings to deliver high-quality output across all elements. The test is repeated on both coated and uncoated media.



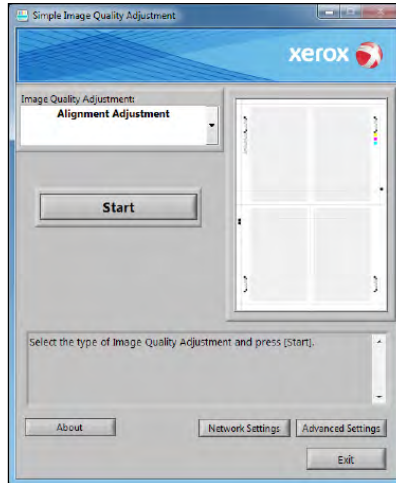
ECI Altona Test File



BLI Mixed-Page-Element Test File

★★★★☆ **Ease of Use**

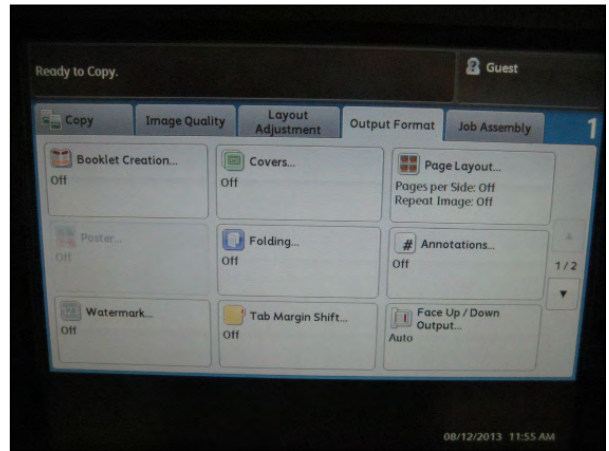
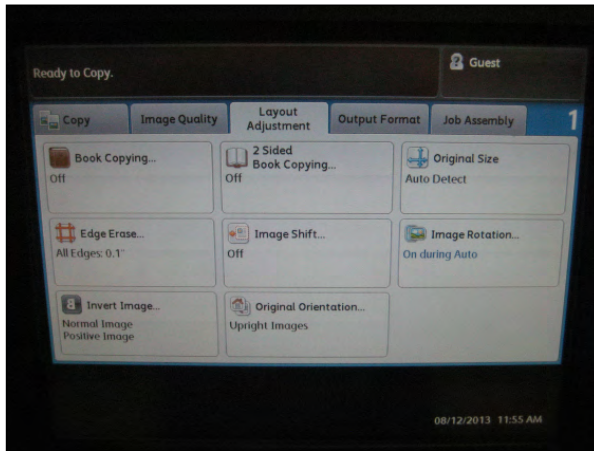
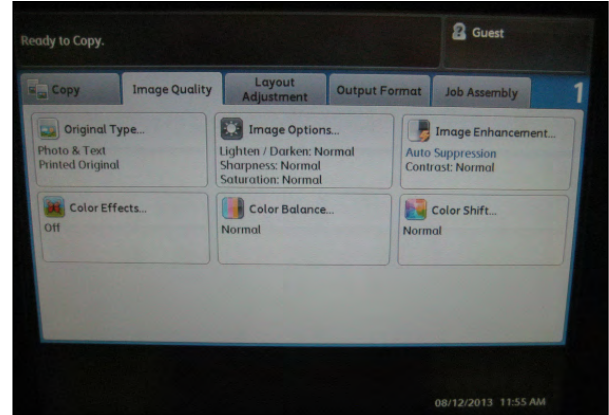
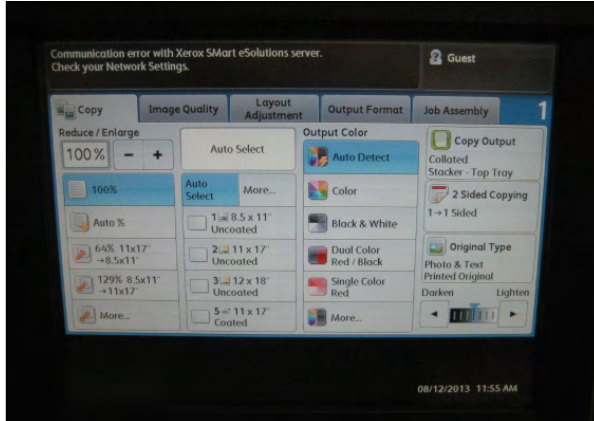
+ The Versant 80 features the SIQA (Simple Image Quality Adjustment) toolset, free software that provides the ability to automatically or manually adjust the front to back registration. Whereas the registration adjustment procedures for competitive machines are manual, time-consuming and confusing, requiring either trial and error or for operators to print multiple sheets and manually measure a selection of distances between markers on the sheets and enter those details into a utility, the Xerox Versant 80's process for front to back registration is more automated and in fact the simplest BLI has seen to date. An operator logs in as an administrator and accesses the Maintenance screen under System Settings. Once the operator selects the tray to be registered and the coverage level (setting 1 for coverage level for both the front and back side is typically fine) and then a sample chart is printed. To correct any misalignment, the operator scans the front and back of the page both in the lead edge direction and the trail edge and then follows the instructions on the user interface. The software then automatically calculates the profile for different paper types, weight and sizes. Registration profiles can be created for each media type and each drawer. Up to 80 registration profiles can be stored.



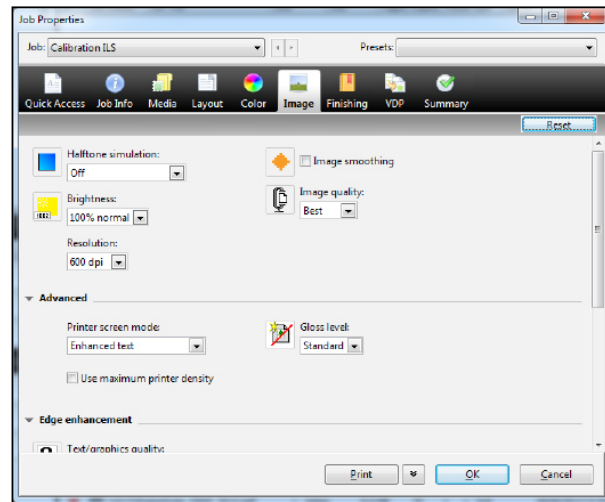
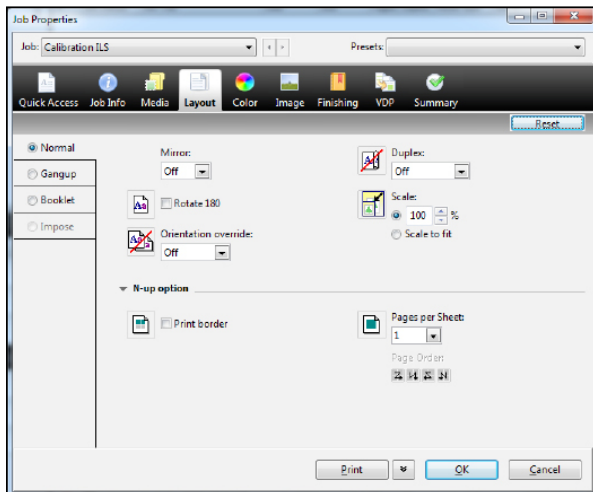
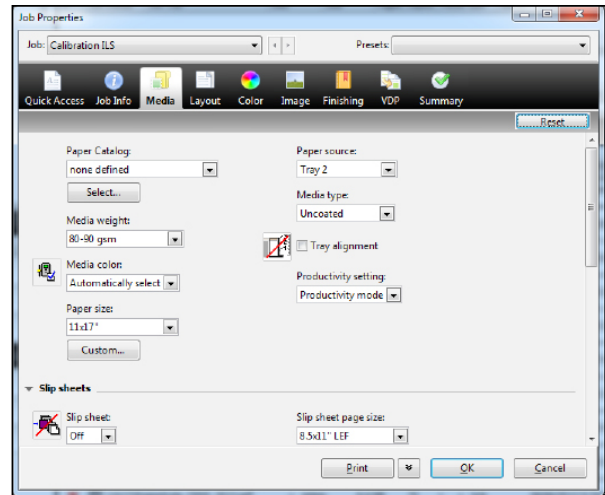
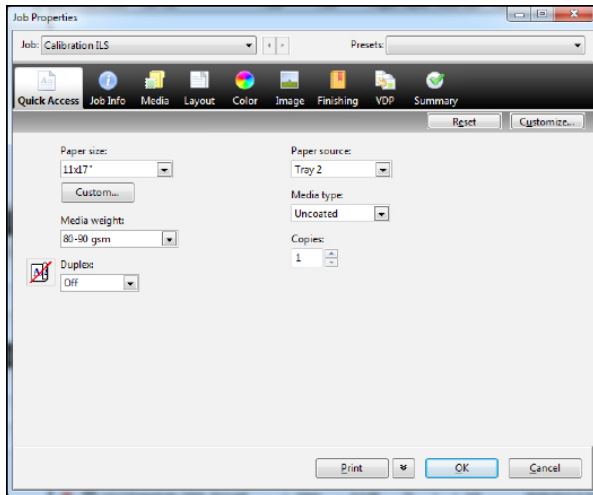
The SIQA (Simple Image Quality Adjustment) toolset provides the ability to automatically or manually adjust the front to back registration.

- + The Xerox Versant 80's Performance Package also includes an Inline Spectrophotometer (ILS) and the Automated Color Quality Suite (ACQS), which can be used to perform automated DFE calibration and custom profiling. The built-in spectrophotometer eliminates the need for an operator to manually create color profiles by scanning target sheets using an external spectrophotometer. The operator initiates the procedure at the print server, upon which target sheets are generated and scanned automatically, and all measurements, calculations and corrections are performed automatically.
- + The ILS also supports advanced profiling for color accuracy. Using the ILS, target sheets will be automatically printed and measured for how closely they match a selected standard, and a custom color profile will be generated. A custom profile can be created for each media used.
- + The device's touch-screen control panel monitor is identical to that of Xerox machines in the office space, so no learning curve will be required for those already familiar with Xerox's engines.
- + The control panel monitor is on a mounted arm, and can be moved freely from side to side and up and down.
- + Consumables status at the control panel is highly detailed, and includes the amount of toner remaining in 10 percent increments. Details on the amount of toner remaining extends to Fiery Command Workstation (in 1 percent increments) and the Fiery driver (in 10 percent increments) as well, so this information is always readily available for operators.

- + The control panel also provides drum life and fuser assembly life remaining in 1 percent increments. Waste toner, staple cartridge, booklet staple cartridge, staple waste container, hole punch waste container and trimmer waste container are indicated as OK or empty.
- + The EFI Fiery driver used in testing is well laid out and provides a high degree of functionality and extensive job programming capabilities, as well as robust image quality adjustment options. There are 10 tabs to navigate through, each represented by both text and a graphic.
- + Via the Quick Access tab, users can select quantity and paper selection, as well as duplex. The tab can be customized, with the operator able to add any print setting function for fast job building.
- + In addition to the device's user-replaceable waste toner container, the drums and suction filter are user-replaceable without the need for specialized tools or advanced technical training. The fuser may also be replaced by the user if directed to do so by service.
- O Replacing toner, which can be done on the fly, is simple and mess free. The device features two black toner compartments, allowing for automatically switching to the second black cartridge when the first one runs out. Replacing the waste toner container is also simple.
- O When replacing the drums, the manufacturer recommends not to expose the drums to light for more than 60 seconds. To offset prolonged drum exposure to light, a black sheet is provided in the first drawer, and can be placed over the drum cartridges that are not being replaced. According to Xerox, in the event that the drums are exposed to light for a prolonged period of time, image quality defects typically clear up within the first few hundred pages that are run.
- + The Xerox Versant 80 offers easily understandable instructions when a misfeed occurs, with dynamic graphics and text that cover most of the display. The device automatically resumes running once the misfeed has been cleared.
- + The Versant 80's engine is flushed if a misfeed occurs in the paper input or output path, reducing jam clearance and device recovery times while also reducing the risk of damage to the device.
- O Note, however, that only the paper jams that occur past the fuser section in the paper path are automatically flushed out of the system; others must be manually removed.
- Misfeeds that may occur between the large-capacity paper decks and the imaging unit would be very difficult to remove because there is no roller to advance the misfed sheets, making them highly susceptible to ripping and tearing.
- Access to jams behind the fuser section would be difficult, as the unit does not extend far enough.



The Xerox Versant 80's control panel is identical to that of Xerox machines in the office space.



The EFI Fiery driver is well laid out and provides a high degree of functionality and job programming capabilities.

★★★★☆ **Job Management**

+ Via EFI Fiery Command WorkStation 5, color coding quickly allows users to see the status of all jobs in the queue, including which are spooled, RIPPed, printing or completed. Fiery Command WorkStation also allows an operator to see and manage all the Fiery controllers installed on the network, regardless of print engine manufacturer they are driving, and all the jobs that will be printed to them.

- + Operators can view any jobs that are held, currently printing, or canceled and why. Users can send jobs to the hold queue, or print them immediately, delete jobs or duplicate jobs. Jobs can be fully RIPped and spooled and then held. They can be reprinted and viewed as thumbnail images, and multiple files can be merged together. Pages of held and processed jobs can be previewed, and pages can be moved or deleted. Job details include job title, user, size, pages, copies, date/time and type of media (coated, uncoated).
- + When reprinting jobs, operators can change settings including quantity, simplex/duplex, and paper source. Users can also see how much memory is available on the hard drive, and the status of paper and consumables. A paper catalog is built in and can be modified and populated at the print driver as long as it is within the specifications the machine will accept.
- + The Fiery Ticker utility provides accurate information on toner remaining for each color and amount of paper remaining in each drawer. While the device is running, if an operator hasn't made any selections for a set period of time, the Ticker pops up on screen. It indicates the name of document currently running and time until completion. A "speedometer" shows the speed at which the engine is running. It also provides failure messages, clearly indicating in red that an error has occurred on the device and what the error is.
- O The billing meter at the control panel cannot be printed, but it does provide the device serial number, as well as color impressions, black impressions and large color and black impressions.
- O The Job Info tab of the Fiery driver offers job ticketing capabilities, which provide notes and instructions in the job queue for operators to view prior to releasing a job.
- + Users can be notified via pop-up message when their print jobs are completed, as well as of errors including misfeed, out of paper, output tray full and printer offline conditions. Icon alerts on the taskbar indicate error conditions.
- + The print server supports Fiery Hot Folders, which allow users to drag and drop documents into a folder that automatically applies pre-defined settings (for example, color or black, simplex or duplex, staple) to those documents, streamlining repeated print processes. Formats supported include PDF, PostScript, EPS and TIFF formats.
- + Via the Hot Folders Console, users can access their Hot Folders and view information about the location, job action, and settings for each, including status information on all jobs processed through a Hot Folder.
- + Jobs can be scheduled to print at a specific time, allowing less time-critical tasks to be set to print outside peak hours.
- + The driver feature set is extensive, allowing operators to build jobs including basic imposition tasks (e.g., 2-up gang-up) and create booklets intuitively and quickly. Other job build capabilities include mixplex, subset finishing and mixed-media selection options. The settings for frequently used jobs can be saved as templates in the driver for reuse.
- + Fiery FreeForm VDP (Variable Data Printing), is a standard feature of the EFI driver that

allows users to merge background stored images such as letterheads or corporate logos with variable foreground text. Up to 100 background images can be stored.

- O Because the device was configured with an EFI controller, an operator can view only one job at a time at the job queue of the machine. Operators will need to access Command WorkStation for current or pending job status.
- O Fiery Job Mismatch can be configured to either cancel or suspend jobs after a preset time once an error has occurred. This allows a job with an error condition to be automatically cleared so that the following jobs in the queue can be run. If configured as suspend, then no job programming is needed and the job waits for the operator to fill the tray and release the job.
- + Print Around allows the device to pull paper from another drawer if the paper runs out in one drawer, as long as the same paper is loaded in another drawer, and has also been confirmed at the control panel. In addition, if a job is sent that does not match the paper available in the drawers, the machine will automatically bypass the current job and allow the other jobs for which media is available to start. If the machine did not have this capability, jobs unable to run would clog the queue and subsequent jobs would pile up behind it. This would be especially problematic if an operator sends the job and moves onto something else without noticing the paper mismatch message.
- + Remote services offered include MeterAssistant, SuppliesAssistant and Maintenance Assistant. MeterAssistant automates the process of collecting and submitting meter reads for tracking and billing, and reads meter data directly from the equipment. SuppliesAssistant automatically orders supplies for the Versant 80 based on actual usage, helping to ensure fresh supplies are on hand. Maintenance Assistant securely transmits device diagnostic information to Xerox, helping to resolve problems more quickly when service is needed.
- + Xerox Standard Accounting tracks the number of copy, print and scan jobs for each user. Operators can also set limits to restrict the total number of jobs by type that a user can produce. Reports can also be generated that list usage data for individual users and groups.



Command WorkStation's Fiery Ticker

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