Imaging Strategies Product Report

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Xerox ColorQube 9200: Poised for Market Disruption

Introduction

In what is destined to be the industry's most important product launch of 2009, Xerox announced the introduction of the ColorQube 9200 Series on May 7th. Code-named Jupiter, the three-machine family of new solid ink color MFPs features the ColorQube 9201, 9202, and 9203.

The launch of the ColorQube 9200 Series is significant in a number of ways. Without question the models are Xerox's fastest solid ink MFPs to date (up to 85ppm in color in Fast Color mode on the ColorQube 9203), they are the company's first solid ink MFPs based on an A3 engine, and their pricing, features, and paper-handling accessories are all departmental in nature. This is in contrast to earlier Xerox solid ink models which have been based on A4 engines and positioned as small workgroup devices.

Ultimately, the ColorQube 9200 Series will cause market disruption because of its game-changing color running costs. Using Xerox's three-tier Hybrid Color Plan, the models establish a new pricing benchmark for color at the departmental level of the market. The company claims the Series reduces the cost of color printing by 62 percent.

Solid Ink Technology

To fully understand the threat that the ColorQube 9200 Series represents to conventional electrophotographic devices, you have to begin with the solid ink technology that is at its core. Although it has been around for some time, solid ink is still not widely known in the traditional A3 office equipment market that is served by dealers and direct branches. This is because it has been exclusively an A4 technology when it comes to MFPs, and as such it has been used in devices targeting small workgroups. Accordingly, the channels distributing solid ink products have also been slightly different, although this has been changing in recent years.

The journey solid ink technology took in becoming the basis of an A3 MFP accelerated when Xerox acquired Tektronix in 2000. Tektronix had been fairly successful with solid ink printers and had built a well respected brand in the Phaser product name. Ironically, it was the extensive Tektronix reseller channel that was viewed by many analysts as the most valuable aspect of the deal, given that it filled a large gap in Xerox's distribution at the time. In the years since the acquisition, Xerox has been expected to scale the technology up in speed and wider in paper format, and that day has finally arrived.

Solid ink has several important advantages over electrophotography, some of which it also shares with ink jet technology. The imaging mechanisms in both ink technologies are simpler and the maintenance requirements are much lower, ultimately resulting in lower service costs. Interestingly, solid ink also has some attributes in common with Hewlett-Packard's high-speed Edgeline ink jet technology, such as the use of a page-width print head to apply ink. In the ColorQube's case it's an A3 print head; HP uses A4.

Unlike traditional ink jet devices, which shuttle the print head back and forth across the page to apply ink one line at a time, solid ink uses a fixed print head array that is the width of the page. The print head paints the image onto a rotating aluminum drum and then the image is transferred to the paper via a high pressure roller. This enables faster speeds and more reliable operation than with conventional ink jet technology. HP's Edgeline also uses a fixed-head approach, but instead images direct to the paper.

Another critical advantage common to both Xerox solid ink and HP's Edgeline is the ability to measure precisely the number of pixels of ink which are applied to the page. This enables greater flexibility in the pricing plans that both vendors use as part of their strategies to promote color use by customers. In Xerox's case it is the three-tiered Hybrid Color Plan, while HP has three-tiered pricing of its own. With electrophotographic technology, however, there is less imaging control and the pricing plans reflect this.

Note that there are important differences in how these pricing plans are applied. The ColorQube 9200's pricing tiers are based on the amount of colored ink on a page, while HP's tiers are based on an image quality setting selected by the user. Xerox charges customers only for the color ink that they use, while HP is asking customers to accept lower quality output in exchange for lower prices. On electrophotographic devices, customers are charged a flat price no matter how much color toner is on the page.

Lean and Green

One of the most compelling arguments for the use of solid ink technology is its environmental benefit. Without question, solid ink is the greenest of all office imaging

technologies on the market today. The solid ink sticks are not part of a cartridge system and the only packaging is the box that they ship in, which is itself made from post-consumer materials and is locally recyclable (where this is available). Xerox claims that its solid ink technology as implemented on the series produces 90 percent less waste than a comparable laser electrophotographic device. This is an important advantage at a time when office end users are increasingly receptive to environmental concerns.

Another advantage of the technology is there is only one customer replaceable component (besides ink sticks), which minimizes the number of user interactions with the device and lowers operating costs. The cleaning unit lasts for approximately 200,000 pages and is recyclable through Xerox's Green World Alliance program.

Messaging, Branding, and Positioning

In meetings with analysts and the press, Xerox has spent considerable time honing its messaging on the ColorQube 9200 Series. Part of this was simply good marketing technique, but we believe it was a necessity because of the challenges presented by having two radically different technologies in the line. This situation has existed for Xerox since 2000, so it is nothing new. However, it is a difficult tightrope to walk when selling two competing technologies to the same group of customers.

The three core messages for the ColorQube 9200 Series are breakthrough color page pricing, exceptional ease of use, and cartridge-free and environmentally responsible

technology. Of course, there are certainly other messages as well, and Xerox also promotes the ColorQube 9200's ability to do more with less in terms of office productivity, and the increased reliability enabled by solid ink technology.

Xerox has taken a step in a new brand direction with the launch of the ColorQube 9200 Series. There was a time when the Phaser name was used exclusively for solid ink products, but in more recent times its use was expanded to include laser models as well. Going forward, all solid ink models will use the ColorQube name, and presumably Phaser will continue being used for A4 models using laser technology.

Positioning the ColorQube 9200 Series properly is a tricky proposition for Xerox. Many of the benefits of solid ink technology turn up as the drawbacks of laser electrophotographic technology, so the company has to be careful when promoting solid ink not to come down too heavily on laser. Environmental impact is a good example of this, and certainly flexibility of price plans, but don't expect Xerox to stop selling laser any time soon.

Xerox is positioning the ColorQube 9200 Series for high-volume office users of color primarily because of its low color operating costs. In company materials, the suggested monthly volume range where the Series should be considered is 13,000 to 22,000 per month, with a color penetration rate of 25 percent or higher. For users with lower color volumes, laser is recommended because of its lower hardware entry price.

Xerox also makes the point that if offset-like image quality is preferred, laser is the better solution. Solid ink output is more high gloss than laser, while laser is more matte. Further, while media support is considered comparable for the two technologies, laser is better with glossy papers and solid ink performs better on recycled and inexpensive papers.

There appear to be no plans to use the Series as a light production offering. Note that the models use a Xerox controller and do not offer third-party devices such as those from EFI or Creo.

Features and Capabilities

The ColorQube 9200 Series consists of the ColorQube 9201, 9202, and 9203. The machines are nearly identical, with the main sources of differentiation being color speed and duty cycle. Speeds are variable according to the image quality mode selected, and

there are four different modes: Photo, Enhanced (default), Standard, and Fast Color. In the default setting, the 9201 operates at 38ppm in color and 50ppm in black. The duty cycle is 150,000 pages per month. The 9202 runs at 45ppm in color and 50ppm in black, and its duty cycle is 225,000 pages per month. The 9203 operates at 50ppm in both color and black, and its duty cycle is 300,000 pages per month.

Flexible Print Speeds (Color/Mono)	ColorQube 9201	ColorQube 9202	ColorQube 9203
Photo Mode	30/38 ppm	35/38 ppm	38/38 ppm
Enhanced Mode (default)	38/50 ppm	45/50 ppm	50/50 ppm
Standard Mode	50/70 ppm	60/70 ppm	70/70 ppm
Fast Color Mode	60/85 ppm	70/85 ppm	85/85 ppm

Ease of use was clearly one of the guiding principles of the ColorQube 9200-Series design team. The machines feature a large WVGA color touch-screen control panel that is highlighted by a new “All Services” starting point. After a user selects one of the primary services, the control panel then uses the tabbed menu system typical of most Xerox MFPs. The new user interface design is making its debut on the models, along with the latest version of the next-generation Smart controller.

The touch-screen control panel is used to navigate the various features and capabilities of the devices, and also serves to display help videos showing user tasks such as clearing jams, replacing staples and ink, and error recovery.

Xerox ColorQube 9203 Control Panel

Loading solid ink is also a very simple process. Users lift a small door located at the top left hand corner of the device and insert one of the four different colored ink sticks. Each stick has a slightly different shape, plus they are numbered one through four. It is virtually impossible to load the ink incorrectly. In one of the series' many productivity features, ink sticks may be loaded while the machine is running.

Paper Handling

The ColorQube 9200 Series is a completely new platform, which is a refreshing development in an industry that has a habit of passing derivative new models off as "exciting" new platforms. The imaging engine inside is unlike any other on the market, aside from Xerox's solid ink A4 models. The one exception are the ColorQube 9200 Series' paper-handling accessories, where Xerox leveraged devices from the monochrome WorkCentre 5600 Series – no need to reinvent the wheel on those.

Inside the machines, access to the paper path is very straightforward. There are a series of numbered locations as well as a system of LED lights to lead you through the process of clearing jams. Compared with the typical departmental color electrophotographic machine, there are fewer access points and a simpler paper path.

Internal View ColorQube 9203

The standard paper-feed system consists of two 550-sheet paper trays, a 2,100-sheet paper tray, and a 100-sheet bypass. Available as an option is a 4,000-sheet high-capacity feeder that holds up to A4/letter-size paper, and with an optional kit the feeder supports 2,000 sheets of up to A3/ledger-size paper. The standard duplexing automatic document feeder has a 100-sheet capacity.

On the output side, the ColorQube 9200 Series offers a full range of options. The list includes an offset catch tray and several different finishers, including a finisher with booklet maker. As mentioned earlier, all of them are derived from the WorkCentre 5600 Series. This should provide a degree of comfort for buyers given the established performance history of these devices.

ColorQube 9200 List Pricing

Product	Price
ColorQube 9201	$23,500
ColorQube 9202	$26,500
ColorQube 9203	$29,500
Input Options	
4,000-sheet High Capacity Feeder	$2,200
A3 Short Edge Feed Kit for HCF	$1,000
A4 Short Edge Feed Kit for HCF	$1,000
Output Options	
Convenience Stapler	$299
Offset Catch Tray	$400
Office Finisher	$2,500
3-Hole Punch Kit for Office Finisher	$795
High Volume Finisher	$4,750
3-Hole Punch Kit for High Volume Finisher	$795
2-Hole Legal Punch Kit for High Volume Finisher	$795
Post Process Inserter for High Volume Finisher	$1,500
C/Z Tri-Folder for High Volume Finisher	$6,500
High Volume Finisher w/Booklet Maker	$6,250

Equipment and accessory pricing on the ColorQube 9200 Series is best described as departmental in nature. The most inexpensive machine in the Series – the ColorQube 9201 – lists for $23,500. Keep in mind, however, that this model has a default color speed of 38ppm. Competitive laser machines at the 40ppm level of the market typically sell for well under $20,000. Likewise, the ColorQube 9202 has a list price of $26,500, yet has a default color speed of 45ppm. Competitive products at 45ppm list for just under $20,000. And lastly, the ColorQube 9203 sells for $29,500 and has a default color speed of 50ppm. Most competitive laser models sell for considerably less.

While at first glance it may be tempting to simply write off the ColorQube 9200 Series as overpriced, there are several unique aspects of the ColorQube that must be considered. First of all, there is the issue of speed. Xerox has gone to great lengths to represent as accurately as possible the real world speed at which most users will operate the equipment. While the company's honesty is certainly commendable, we think they may have been too conservative for their own good. If Xerox had used the ColorQube's Standard Mode as the default speed setting instead of the Enhanced Mode (if only for the sake of naming clarity), the 9201's color speed moves up to 50ppm, the 9202's up to 60ppm, and the 9203's up to 70ppm. Comparisons based on competitive hardware prices now take on a much more favorable light.

We believe that Xerox was concerned that the resolution in Standard Mode is a notch below Enhanced Mode (default), and the company didn't want to risk end user disappointment in solid ink image quality. However, from the samples that we have seen, the quality drop off is fairly small and it appears suitable for most office applications. It may have been worth the risk to use Standard Mode as the default setting and gain a faster set of default speeds. At the end of the day, any disappointed user could always select a higher resolution mode if they needed to do so.

More importantly, evaluating the ColorQube 9200 Series solely on hardware pricing misses the main point of Xerox's strategy: The Series is designed to set a new pricing benchmark for color operating costs. Using a tactic that it first experimented with on the solid ink Phaser 8850 and 8860, Xerox is offering users a path for obtaining exceptionally low per-page color costs, but with a requirement that they pay more upfront for the device. As long as a customer has sufficient color volume, they will save money over the lifetime of the machine compared with competitive laser offerings, and also compared with a laser model within Xerox's own product line.

Operating Costs and the Hybrid Color Plan

Xerox's strategy with the ColorQube 9200 Series is to encourage greater color use through lowering the color cost per page charged for service and supplies. Industry research has shown that the high cost of color is the most significant barrier to its widespread adoption. As a result, the new models feature game-changing color operating costs.

Customers who acquire a ColorQube 9200 will be offered a variety of traditional per-page price plans, and pricing can be expected to be very competitive. As with all imaging vendors, Xerox offers different plans and price levels for the various customer types (i.e. schools, government, major accounts etc.) and volume commitments. However, the plan with the potential for the most market disruption is the ColorQube 9200 Series' three-tiered Hybrid Color Plan.

Per-page service and supply plans on color electrophotographic devices are usually based on two meters. According to Xerox marketing materials, monochrome pages are typically billed at around 1¢ per page, and all color pages are billed at 8¢ per page, irrespective of the amount of color ink on the page. Therefore, printing a mostly monochrome e-mail which happens to have a color Web or e-mail link on it costs the same as printing a full-color PowerPoint slide. With electrophotographic devices, all color pages are treated as being equal in terms of what you pay, even though some of them may have little color on them.

The Hybrid Color Plan is designed to charge customers for what they actually use, or at least get in the ballpark. As mentioned earlier, the ColorQube 9200 Series is able to measure precisely the amount of monochrome and color pixels of ink placed on a page. Based on certain pixel thresholds, printed pages will fall into one of three different categories and be billed accordingly. Using Xerox terminology, the three categories are "Useful Color," "Everyday Color," and "Expressive Color."

The meter tracking Useful Color pages counts both monochrome pages and color pages that have very little color on them. In terms of the number of pixels, pages with up to 286,000 color pixels are included under the Useful Color meter. This translates to roughly 1.2% color coverage on a letter-size page. Xerox is promoting the concept of color for the price of monochrome on the ColorQube, and charges on this meter are expected to be 1¢. (Please note that some variability on this pricing is expected due to customer and volume differences.) This approximates the current market price for a monochrome page produced on a color machine.

Everyday Color pages are tracked on a second meter and have a moderate amount of color on them, ranging from between 286,001 and 1,900,000 color pixels. This equates to approximately 1.2% to 8% color coverage on a letter-size page. Charges on this meter are expected to be 3¢, which is very competitive and sets a new price benchmark for color in the industry.

Expressive Color pages are recorded on a third meter and have a relatively high amount of color on them. This meter counts pages with over 1,900,000 color pixels, or more than roughly 8% color coverage on a letter-size page. Charges for Expressive Color pages are 8¢, which is slightly higher than the industry average for a color page, although Xerox may disagree on this latter point.

According to Xerox research, approximately 10% of all color documents in the office fall in the Useful Color category. The company's strategy is to use the Hybrid Color Plan to grow the number of documents in this category considerably by encouraging the conversion of monochrome office documents to color. The research also shows that currently 65% of office color documents fall in the Everyday Color category, meaning that a very large number of documents would benefit from the lower prices offered by the Hybrid Color Plan. This is a robust indicator of future ColorQube success.

Lastly, roughly 25% of color office documents fall in the Expressive Color category. We believe that the ColorQube Series will have minimal effect, if any, on this category.

Conclusion

There is no question that the ColorQube 9200 Series will end up being the industry's most important product introduction of 2009. It provides game-changing running costs, while at the same time offering end users the most environmentally sound technology on the market. The Series also makes no compromises when it comes to features or functionality – it comes with a complete set of departmental paper handling accessories, provides full-function copying, printing, scanning, and fax, and supports Xerox's Extensible Interface Platform (EIP).

This is not to say, however, that Xerox won't face some challenges as it markets the ColorQube 9200 Series. One of the issues the company faces is successfully managing its strategy of charging a higher upfront price for hardware in exchange for lower operating costs. At the end of the day, having a higher hardware cost than a competitor creates an additional barrier to overcome during the sales process. While certainly most buyers will be able to understand comparisons based on lifecycle costs, it adds complexity to the discussion.

Another cause for concern is the rate at which per-page operating costs are falling to new lows each day, shrinking some of the operating cost advantages of the ColorQube 9200 Series. This is certainly a problem for all imaging industry vendors, and there is little that can be done about it. However, it's worth pointing out that Xerox is better positioned than any other vendor to handle further drops in operating costs. It holds an advantage in pricing flexibility (the Hybrid Color Plan is truly unique), and we believe electrophotographic competitors have far less room to discount than Xerox does.

No discussion of the ColorQube 9200 Series is complete without outlining one of the most obvious lines of attack its competitors will pursue. Even though solid ink technology has been around for years, competitive sales reps will try to scare prospects by telling them it is unproven technology, or even worse, that it is not up to the task for departmental environments. None of these arguments will hold up under close scrutiny, but some buyers may simply decide they aren't ready for solid ink because of it.

We believe the ColorQube 9200 Series provides the best of all worlds: low operating costs, flexible pricing plans, a full range of features, and an environmentally responsible technology. All that remains is for Xerox to successfully make its case to end users.