

Kodak
SQUAREspot
Imaging Technology

**Accuracy,
stability,
and repeatability**
for newspaper printers

Generation News Platesetter



When good-looking presswork isn't enough

While all CTP systems can produce plates that result in nice presswork, this is not the only measure of a quality CTP solution—and it may not be the most important. In order to achieve a reliable, cost-efficient, and consistent print manufacturing process, the printer requires that the same criteria be met on plate as on press, the first time and every time. That is why we went beyond conventional CTP laser imaging technology to develop award-winning **Kodak SQUAREspot** Imaging Technology.

What makes **SQUAREspot** Technology different is its ability to enable a wider operating window for accurate plate imaging. **Kodak** Platesetters with **SQUAREspot** Technology help thousands of Kodak customers deliver exceptional print, day in and day out. These devices can help reduce chemistry usage, plate waste, remakes, makeready times, compromised color, and premature plate wear, while enabling printers to tolerate a wider range of prepress and pressroom variables—critical for keeping your operation running smoothly and saving you money.

Variation: how much is it costing you?

Variation is an expensive, often overlooked issue. Variation in plates, chemistry, exposure, density, and ink/water balance all affect your ability to keep presswork on target. Printers with **Kodak** Platesetters benefit from an image on plate that is up to six times more resistant to process variation than competing technologies. This stability is achieved by the unique, high-resolution laser imaging system, which delivers a fine swath of energy at 5,000 dpi on newspaper platesetters. Combined with intelligent Dynamic Autofocus, **SQUAREspot** Technology produces an exceptionally accurate dot consistently and reliably, plate after plate.

The **SQUAREspot** Thermal Imaging Head provides tonal uniformity across the plate. Its ability to maintain imaging accuracy despite normal variations ultimately extends the life span of chemistry, and results in a dot that is more durable on press.

Thermal imaging is the right choice for newspapers

Kodak Platesetters bring the quality, stability, and repeatability of thermal imaging to newspaper printing. Thermal imaging reduces the process variations found in visible light and UV systems that can lead to variable quality, so you are able to improve your margins through efficient plate making and deliver excellent print quality. In addition, thermal imaging technology allows you to utilize daylight conditions in prepress. These are just a few of the reasons that newspapers in the majority of markets worldwide are moving toward thermal technology.

The impact of variation on presswork



A 5% tone shift during plating at the 50% mid-tone (-5% M) and loss of 1 & 2 % highlight dots.



The client approved image.

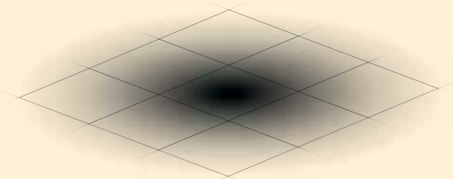


A 5% tone shift during plating at the 50% mid-tone (+5% M) and loss of 1 & 2 % highlight dots.

What's the difference?

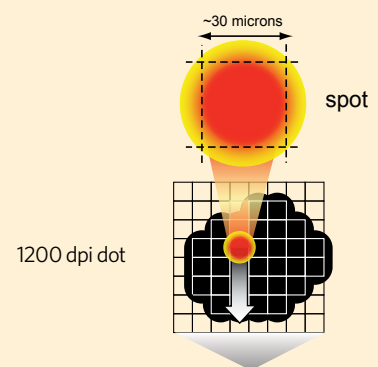
All CTP lasers expose dots according to a grid of pixels, typically of about 1,200 per inch for newspapers. Laser systems found on many newspaper platesetters use a laser spot with an effective diameter of about 900 dpi. More importantly, the laser energy tapers off towards the outer diameter in what is called a Gaussian (soft/fuzzy) profile.

The Gaussian profile creates an area of uncertainty in the laser imaging spot. This area is highly sensitive to variables such as exposure, processing, plate sensitivity, environment, etc.



Conventional Gaussian laser energy profile

Conventional Gaussian Imaging



Kodak Generation News Platesetter

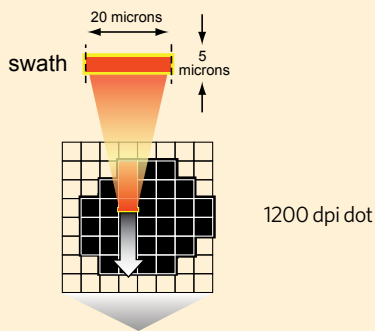


At the beginning of the developer life cycle, the halftone dots would be developed on plate exactly as planned, and the printed piece would have accurate color. However, once the developer has aged, even if only 10% through its life cycle, more and more of the fuzzy, uncertain exposure area would be developed on the plate. The result is larger spots, which create larger halftone dots and result in a different tone on press. Press operators must adjust color, leading to increased waste, reduced print quality, and reduced press productivity.

High-resolution **SQUAREspot** Technology substantially reduces the Gaussian effect, delivering halftone dots with greater immunity to normal process variations in prepress.

SQUAREspot Technology
laser energy profile

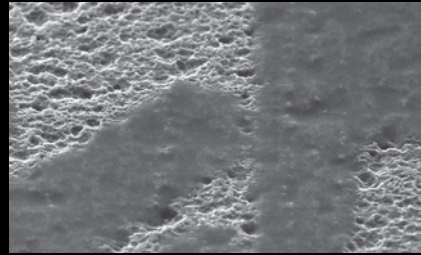
SQUAREspot Imaging Technology
in Kodak's Newspaper Platesetters



Kodak Trendsetter News Platesetter

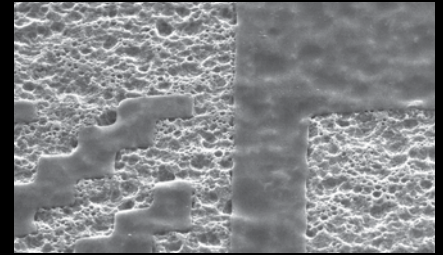


Even after processing, the edges of dots can be weaker than the center, resulting in quicker dot wear on press, longer makereadies, differences between plate readings and press results, and more color variation through the print run. Dots created with **SQUAREspot** Technology have harder edges, making them more resistant to wear on press than Gaussian dots. Stable, durable dots improve color consistency on press, reduce makeready time, and increase the useful run length of plates on press.



Violet plate dot

Photomicrograph of the edge of a single halftone dot from violet imaging. Note the irregular edge definition which results from variations in the imaging threshold, causing unpredictable tonal reproduction.

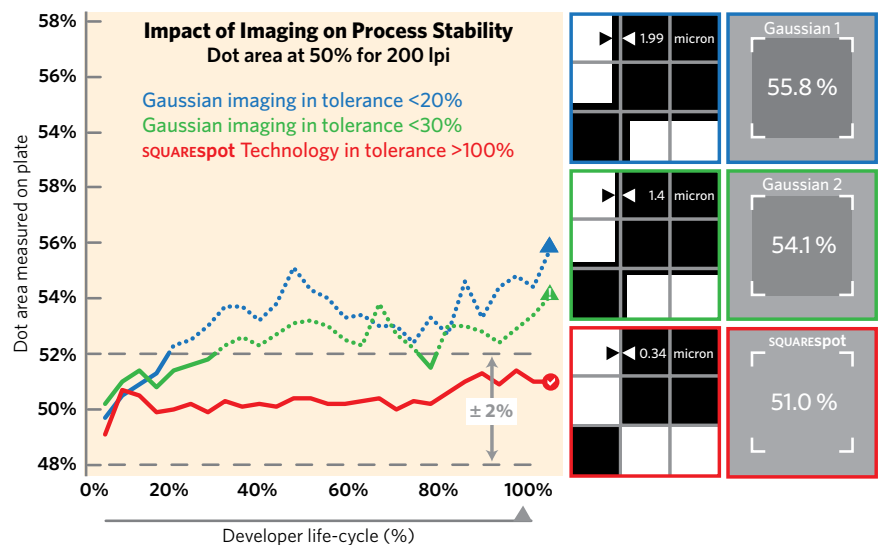


SQUAREspot Technology dot

Photomicrograph of the edge of a single halftone dot from a **Kodak SQUAREspot** Thermal Imaging Head. Note the uniform, steep edge definition, providing consistent tonal reproduction on plate, despite typical variation.

Stability with **SQUAREspot** Imaging Technology

The chart below shows the results of a test comparing the halftones from **SQUAREspot** Technology and two Gaussian imaging technologies as processor chemistry ages. With new developer, the dot area for all three technologies is at 50% after processing. However, when the developer is only 20% through its life cycle, the dot area of one of the Gaussian technology's dots exceed the 2% spec for variation. The other one is out of spec at 30% of the developer life cycle. The dots imaged with **SQUAREspot** Technology, however, remain in spec throughout the developer life cycle.



Other elements of Kodak's CTP technology combine to deliver even greater stability:

- Automatic temperature compensation—enables accurate registration even with variations in ambient temperature.
- Geometrical correction—factory calibration provides matching plates from different **Kodak** Platesetters.
- Dynamic autofocus—reduces the chance of hotspots and image artifacts.

So reliable, you probably won't even think about it

When Kodak invented thermal plates and **SQUAREspot** Technology, we knew the key to success for our customers was not just in delivering plates exposed without film. It was also about doing so in a reliable, consistent manner in real-world conditions. Today, with more than 10,000 thermal CTP installations worldwide, we stand by our products with comprehensive service plans and a global network of professional support consultants.

Our imaging heads are manufactured and tested under the most stringent conditions, which help ensure that **SQUAREspot** Imaging Heads last without requiring service. In the unlikely event of laser failure, the redundancy engineered

into every thermal head means that you probably won't even know about it. **SQUAREspot** Technology uses many overlapping laser emitters to expose the plate. If one, two, or even three emitters fail, power to the other emitters is automatically increased to compensate, helping ensure continued operation with no effect on platesetter resolution or throughput. In addition, help is just a phone call away. Kodak's technical support can address most thermal head issues remotely, because we understand that uptime is critical.

Digital media for **SQUAREspot** Technology

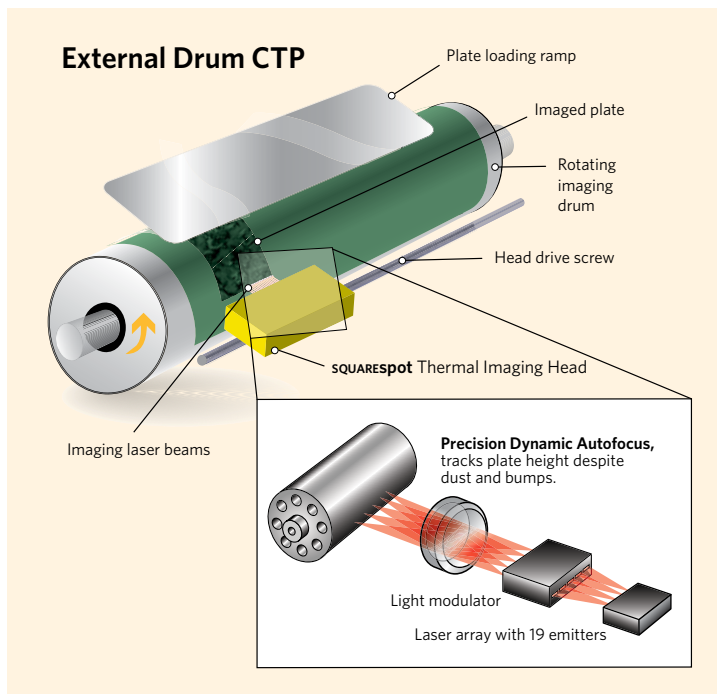
For optimum results on devices with **SQUAREspot** Technology, Kodak offers a wide range of thermal plates for a complete solution that meets your individual

printing requirements. Whether your application is long run or short run, high resolution or medium resolution, commercial, newspaper, or packaging, Kodak has a plate that will meet your needs. In addition, Kodak is committed to being an open systems provider; we have qualified over 60 different plate types from suppliers around the world on our CTP devices.

SQUAREspot Technology is the standard

SQUAREspot Technology is standard on all Kodak Generation News and Trendsetter News Platesetters. So whichever platesetter best fits your production needs, you can be confident that you will be receiving the stability, accuracy and repeatability that **SQUAREspot** Technology delivers.

Resolution drives stability



To learn more about solutions from Kodak:

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It's time for you **AND** Kodak