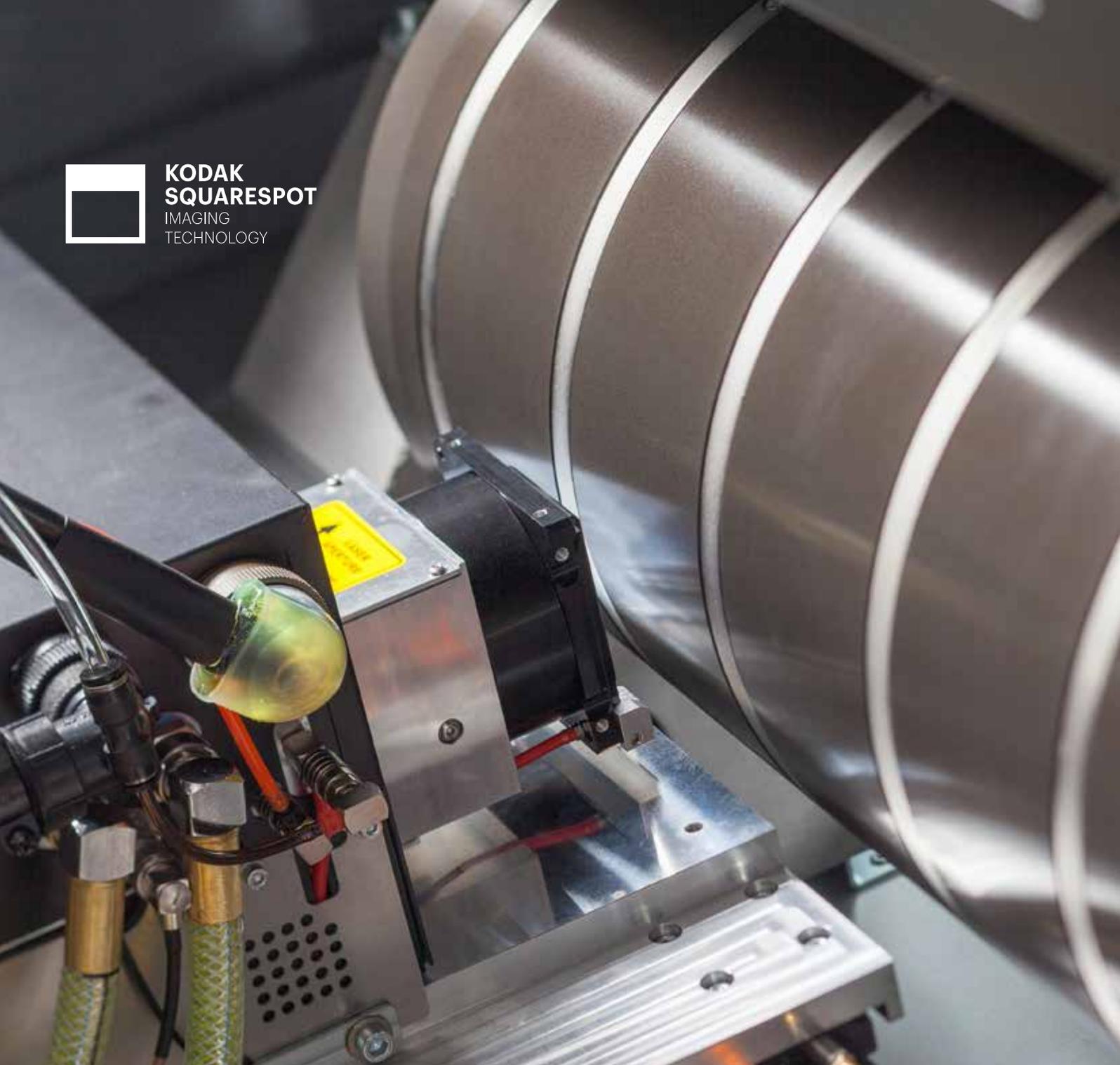




**KODAK
SQUARESPOT**
IMAGING
TECHNOLOGY



KODAK SQUARESPOT
IMAGING TECHNOLOGY

**The perfect imaging system for an
imperfect world**



Accuracy. Stability. Repeatability.

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. 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. Eliminating variation was the driving force behind Kodak's development of award-winning KODAK SQUARESPOT Imaging Technology.

Unique technology eliminates variability

SQUARESPOT Technology is a unique, high-resolution laser imaging system that delivers a fine swath of energy at 10,000 dpi. Standard on all KODAK TRENDSETTER and MAGNUS Platesetters, SQUARESPOT Technology enables a wider operating window for accurate plate imaging.

It provides tonal uniformity across the plate, maintaining imaging accuracy despite normal variations and ultimately extending chemistry lifespan. Combined with intelligent Dynamic Autofocus, SQUARESPOT Technology produces an

exceptionally robust and accurate dot consistently and reliably, plate after plate.

KODAK Platesetters produce an image on plate that is up to six times more resistant to process variation than competing technologies. These devices can help reduce chemistry usage, plate waste, remakes, makeready times, compromised colour, and premature plate wear, while enabling you to tolerate a wider range of prepress and pressroom variables—critical for keeping your operation running smoothly and saving you money.

The difference is clear

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 colour variation through the print run. Dots created with SQUARESPOT Technology have harder edges, making them more resistant to wear on press than Gaussian or GLV dots. Stable, durable dots improve colour consistency on press, reduce makeready time, and increase the useful run length of plates on press.



KODAK TRENDSETTER Q400/Q800 Platesetter

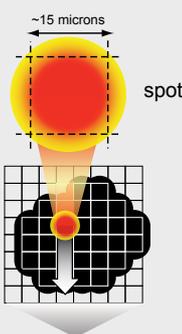


KODAK MAGNUS Q800 Platesetter



Conventional Gaussian dot

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

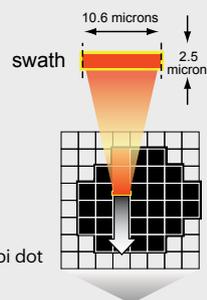


2400 dpi dot



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.

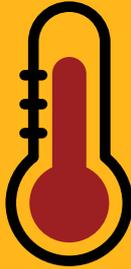


2400 dpi dot

See how SQUARESPOT Imaging Technology co

TEMPERATURE

Episode 1: It's Getting Hot in Here



A commercial printer in the height of summer. At 6:30 a.m., a prepress operator arrives and begins making plates for a four-colour brochure for a local furniture store. Suddenly the plant's air conditioning system acts up. The temperature at the plant starts rising. Halfway through the print run, a plate gets damaged. At 11 a.m., the pressroom requests a replacement. But the prepress room is now 5°C hotter than when the original plates were made.

What happens next?



Without SQUARESPOT

The operator makes a new plate and it's sent to the pressroom. But because the aluminum has expanded in the heat, the image on the plate is the wrong size and the plate can't be used. Another complete set of plates has to be made, wasting precious time and materials both in prepress and on press.



With SQUARESPOT

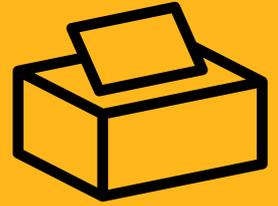
The prepress operator makes the new plate, which matches the damaged plate exactly, despite the heat. The run continues with no issues. He pours himself a refreshing drink.

HOW IT WORKS

Aluminum, like many materials, expands and shrinks with changes in temperature. So plates, especially remakes, made at different times under typical shop conditions can end up being imaged at different sizes, which leads to subsequent on-press registration and colour shift problems. A 5°C change in plate temperature can cause dots to shift by ½ rosette. Automatic Temperature Compensation, a feature of SQUARESPOT Imaging Technology, enables accurate registration even with variations in ambient temperature. Two sensors in the engine measure the temperature, and firmware in the imaging engine makes adjustments and places the pixel in an adjusted location to compensate for the aluminum expansion of the plate. Repeatability on one KODAK Platesetter is 0.00508 mm for the entire environmental operating temperature range of the machine. The accuracy between plates made on different machines is within 0.02032 mm.

FAILING LASER

Episode 2: Failure is Not an Option



A printer has a 10-year-old CTP device that it was planning to replace this year. An unexpected expense in another area of the business means the budget for the replacement CTP has been cut, and it needs to last another year. The imaging head is reaching the end of its projected life, and a laser dies.

What happens next?



Without SQUARESPOT

The CTP device stops imaging properly. The team calls a technician, who tells them he can keep the device going with reduced performance until the laser is replaced – if it's on the edge of the swath. But if it's in the middle, they must replace it before the device can be used at all, and productivity will take a hit.



With SQUARESPOT

The CTP device continues performing normally and no one even notices the problem.

HOW IT WORKS

As any CTP device ages, the laser is wearing out. In a KODAK CTP Device, if one of the 19 emitters dies, the system continues and automatically compensates as each emitter exposes the full laser swath feeding into the light valve without impact to plate throughput. Even if multiple emitters die, the system continues to work. Towards the end of the life of the laser, an easy check by Kodak's remote team can predict the life of the head before it requires replacement.

Compensates for common real-world problems.

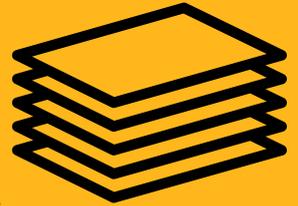
GEOMETRIC COMPENSATION



Episode 3: Mix and Match

A large newspaper running multiple CTP devices wants to fully automate its operation.

STABILITY



Episode 4: Staying in Spec

A busy print shop runs over 2,000 square meters a month of plates through its plate processor. Processors need cleaning, which takes time, as does changing the chemistry when it ages. It's been about 2 weeks since the chemistry has been changed.

What happens next?



Without SQUARESPOT

Plates have to be kept with other plates made on the same CTP device, so the newspaper has to design a system where each line has its own separate stacking and sorting equipment. The operation becomes bigger, more expensive and more complex.



With SQUARESPOT

The newspaper designs its operation with all CTP devices feeding plates into one system, which sorts the plates to optimise productivity. The operation works like a dream, because the plates can be made on any CTP device and still match all the others.

What happens next?



Without SQUARESPOT

The operator finds the print isn't meeting the required colour standards and grey balance - because the dots on the plates are changing size and getting more and more out of spec. The team wastes time adjusting the press and plates to maintain print quality. To keep in spec without as many adjustments, the prepress operators will have to change the chemistry more often, wasting precious time and expensive chemicals.



With SQUARESPOT

The print shop gets maximum life out of its chemistry, cleaning the processor once a month (according to the recommended standard for their plate).

HOW IT WORKS

Every KODAK Platesetter with SQUARESPOT Imaging Technology is calibrated at the factory to provide stability in imaging, even across different KODAK Platesetters. This means printers can maintain registration while imaging a job on multiple CTP devices. Printers can also remake a plate without having to track which device made the original set. This Geometric Compensation feature provides stability in imaging by correcting asymmetries and aligning the imaging grid to the plate edge.



Conventional Gaussian laser energy profile

GLV laser energy profile

SQUAREspot Technology laser energy profile

HOW IT WORKS

All CTP lasers expose dots according to a grid of pixels, typically of about 2,400 per inch. Laser systems found on many platesetters use a laser spot with an effective diameter of about 1500 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 that is highly sensitive to variation. Although more precise on one dimension, grating light valve (GLV) technology produces a similar area of uncertainty on the other dimension. As the developer ages, more and more of these fuzzy areas are developed on the plate, resulting in larger halftone dots and introducing inconsistencies that need to be addressed on press. High-resolution, 10,000 dpi SQUARESPOT Technology substantially reduces the Gaussian effect, delivering halftone dots with greater immunity to normal process variations in prepress.



The Harpers Ferry



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We've got you covered

KODAK Platesetters are designed for maximum uptime, and SQUARESPOT Technology makes it even easier to keep the presses running. Redundancies in the laser head ensure that you can continue imaging, even if a laser fails. In addition, if you ever do need technical support, SQUARESPOT Technology is designed to enable easy remote support. A specialist is only a phone call away, and Kodak can resolve almost any issue remotely, other than actually swapping out the head or cleaning the lens. In fact, Kodak resolves 45% of issues remotely. Even if you don't have any concerns, Kodak can perform a health status on the thermal head remotely, just to give you peace of mind. Finally, if you do need a new SQUARESPOT Thermal Head, we stock them in service warehouses around the world, so we can get a replacement to your site quickly.

Maximise uptime with reliability you can depend on

With over 22,000 thermal CTP shipments worldwide, we stand by our products with comprehensive service plans and a global network of professional support consultants. Kodak's imaging heads are manufactured and tested under the most stringent conditions. In the unlikely event of laser failure, the redundancy engineered into every thermal head means that you probably won't even know about it. If you do need help, it's just a phone call away.



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