Visiccato Printing™ Technology

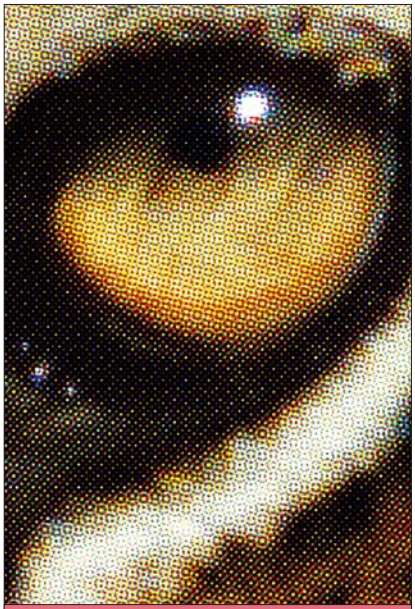
Just like HDTV gives you a more detailed and exciting home-movie experience, our nationally acclaimed ***Visiccato***™ printing technology prints a brighter and more vivid world.

Seeing Clearly with *Visiccato*™ Printing/Technology

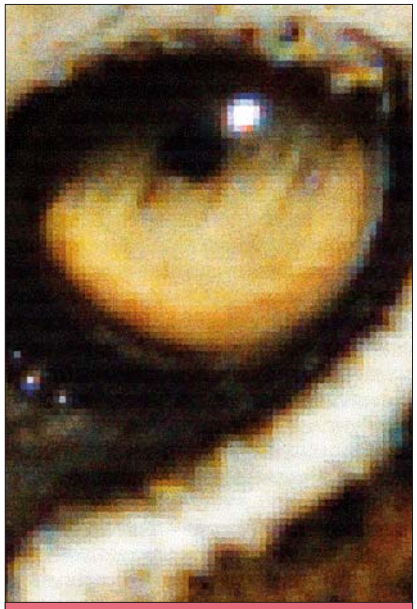
In conventional printing, images are printed using grid-like screens that separate the image into evenly spaced dots that are larger in size in the darker areas and smaller in size in the light areas.

Visiccato™ Printing, a far more precise variation of **Stochastic Printing**, takes the dots and spreads them randomly throughout the image area. The dots are not equally spaced and aligned in a row or grid and they vary according to the tonal value to be reproduced. The lighter areas have fewer dots, the darker areas have more dots. This is a sophisticated method of representing a continuous tone image by converting shading and colors into a random pattern. This eliminates a geometric dot dispersal which causes image-dulling moiré patterns

The relative dot size of the *Visiccato*™ method of screening versus conventional screening drives the press behavior. Below is a comparison of patches from actual printed sheets. **These are enlarged 25X.**



Traditional Screening at 175 lpi



***Visiccato*™ Screening at 20 micron**

Enlarged 25X to show dot structure

VISION graphics

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Visiccato™ Printing Offers The Following Advantages:

- Improvement in image quality, especially flesh tones
- Greater image detail
- Eliminates moiré patterns & screen angles
- Simulates continuous tone photographs
- Increases tonal values
- Fine lines, small type and reverses print better
- Best for printing textiles and other patterned images
- Shadows are more open and details are crisper
- Less ink on the sheet
- Film of ink more evenly distributed on sheet
- More light reflects back to the eye from the printed image
- Ink dries faster on the sheet
- Eliminates saw tooth edges in screens
- More consistency from start of printing to end of printing

20 micron *Visiccato*™ Printing = 400 Line Screen Traditional Method
10 Micron *Visiccato*™ Printing = 600 Line Screen Traditional Method

In Depth Technology Summary

Stochastic screening converts images into small dots of equal size with variable spacing between them. Our second generation stochastic screening goes one step further by lengthening the dots as needed to reproduce darker tones, enabling greater coverage without plugging.

The reduction in dot size minimizes dot gain – there's less splat with a smaller, flatter dot. The mechanics of the smaller dot also serve to greatly reduce the impact of variability and imperfections in the inks and papers used on press.

The smaller dot size coupled with their unique spacing reduces the amount of ink required to achieve the same results as conventional printing. At the same time, it permits the use of more ink, greater coverage or overprinting, to achieve particularly dense colors without plugging. The smaller dot also speeds drying time, and in general aids in consistency and stability of the printing process.

The problems of subject moiré, screening moiré, and unstable halftone structures, caused by the angle and frequency of halftone dots in conventional AM screens, are avoided by stochastic screening. There are no rosettes in stochastic screening. Stochastic screens utilize different patterns for each impression, including overprinted colors. These stochastic patterns are structured to avoid the placement of dots on top of each other and eliminate the risk of secondary pattern artifacts or dumping.

Stochastic printing also reproduces a wider gamut. Light is absorbed and reflected more efficiently by the white space on a stochastically printed sheet, enhancing midtone vibrancy and gamut in a manner that cannot be matched by AM screening. Stochastic printing also preserves the purity and saturation of colors, reduces gray level limitations and abrupt jumps in tone, and minimizes image artifacts or distortions.

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