

# Auraia DMS



Auraia (Greek for beautiful) DMS is Hamillroad's Digitally Modulated Screening for litho and offset. Auraia DMS perfects halftone screening by achieving the high level of image detail associated with FM/stochastic screening as well as producing ultra-smooth flat tints as smooth as, and typically smoother than, AM/XM screening.

## New techniques

Auraia Digitally Modulated Screening utilizes ground-breaking patented technology to create a unique product that combines the best characteristics of AM, FM, XM, GS and CS screening techniques. Auraia DMS dramatically enhances quality, stability, and gamut, while delivering ink savings over conventional screening. Auraia DMS provides these benefits in real production environments under plate and press conditions which are not usually capable of FM or high lpi AM/XM screening.

## Digital modulation (DM)

DM Screening digitally modulates every pixel it produces thereby precisely controlling the dots in each separation while its "stochastic rosette" interleaves the screens in the separations to eliminate noise and moiré. In addition, the stochastic rosette maximises the ink-on-paper area and minimizes the amount of ink-on-ink to expand the available color gamut while eliminating color shifts due to misregistration.

The screening analyzes each pixel to ensure that no dot is too small to plate or print yet still not large enough to be visible. The result is a quality of print, even on violet devices, that was previously unobtainable.

No longer are printers restricted by problems with moiré, misregistration, rosette drift, color shifts, banding, dot gain variation, dot or shadow loss and so on, but are free to do what they do best – meet their print customer expectations with 'beautiful' presswork.



**The printing result is convincing with very high detail and a fantastic brilliance. Images get an almost photo-realistic representation and colored surfaces appear printed as a spot color. In addition, we save about 20 percent of ink.**

Walter Knopp, Owner  
Offsetdruck Knopp, Germany

## Highlights

- High fidelity printing equivalent to 400-500 lpi
- Moiré free – both screening and subject
- Highlight dots down to 0.01%
- Shadow dots up to 99.99%
- Extremely smooth vignettes and flat tints
- Works on violet, UV and thermal systems
- Potential ink savings of up to 20%
- Easy to plate and print on press
- Retains image detail of 600-800 dpi scans
- Fully optimized 64-bit version for HMR-10 / 11

### Compared with AM Screening

Auraia DM Screening uses specially shaped dots that, like an AM screen, minimize problems with dot gain and are easy to control on press. However, unlike an AM screen, Auraia DMS does not suffer from problems such as highlight dot loss, moiré and a lack of image detail.

### Compared with FM Screening

Like an FM screen, Auraia DM Screening produces a stunning level of image detail equivalent to 200-400 lpi for newspaper printers and 400-500 lpi for commercial printers. However, unlike an FM screen, Auraia DMS does not suffer from problems such as noisy flat tints and a lack of consistency and stability on plate and press.

### Compared with XM (hybrid) Screening

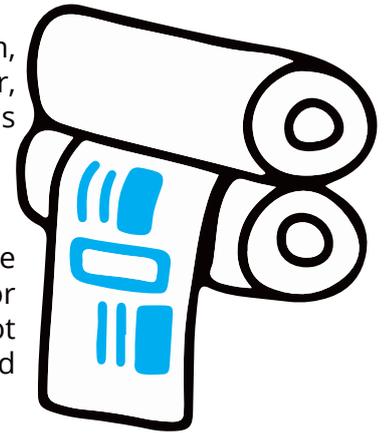
Auraia DM Screening precisely controls the size of its highlight and shadow dots which, like an XM screen, enable retention of a full tone range from 0-100%. However, unlike an XM screen, Auraia DMS does not suffer from problems such as moiré, noisy flat tints or color shifts on misregistration.

### Compared with GS Screening

Like a Geometric Screen, Auraia DM Screening uses carefully crafted geometric shapes that improve the stability on press and eliminate problems such as rosettes and color shifts. However, unlike a Geometric Screen, it does not suffer from problems such as moiré clashes with image content or a lack of image detail.

### Compared with CS Screening

Auraia DM Screening uses specially shaped dots that, like a Concentric Screen, minimize ink build-up on dots, maximize the amount of light filtered and contribute to significant ink savings. However, unlike a CS screen, it does not require high-end plates to hold tiny pixel shapes which can suffer from wear.



For more information visit:

[www.hamillroad.com/auraia](http://www.hamillroad.com/auraia)

Protected by UK Patents 2473475 and 2473476  
Protected by US Patents 8,654,400, 8,654,401 and 9,508,031  
Protected by Chinese Patent ZL201080051176.X  
Other patents pending

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