

DIGITALLY MODULATED SCREENING

DMS. Unparalleled screening technology 



What is „Digitally Modulated Screening“ (DMS) ?

Digitally Modulated Screening (DMS) is a revolutionary halftone screening technology from **Hamillroad Software**, Cambridge, UK, for **Offset printing** and **Flexographic printing** that is **unlike any previous technology**. **DMS** optimizes the printing of ink on paper rather than ink on ink **without any kind of moiré** - screen or object moiré. **Print fidelity** is at a new level **on any substrate**.

Printing with **CMYK plus x spot colors** is achieved **without angle or rosette problems** (Expanded Color Gamut). **DMS** offers the handling of an AM screen and achieves printing with **significant ink savings** and **faster drying!**

AURAI A DMS is suitable for all offset printing processes.

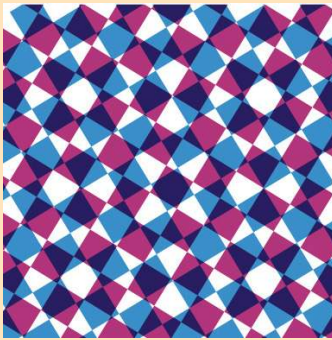
Benefits of DMS:

- **Reduced ink consumption:** 12–18%
- **Reduced water use:** 8-10% typically
- **Reduced fan-out issues** (so easier to register)
- **Faster make ready** (mis-registration not so critical, up to color quicker)
- **Resistant to paper fluctuations**
- **Faster drying** (and less curling)
- **Increased overall productivity** through higher printing press utilization and fewer finishing problems
- Fewer bad copies due to improved stability on press, especially for long print runs
- **No screen moiré, no content moiré**
- **Sharper reverse / tinted text** and edges to tint boxes / graphics
- **No visible color shifts** in the event of registration problems (no rosette formation)
- No (or reduced) bleeding of depths in the event of density deviations
- **Image detail:** Newsprint (Cold-set): >200lpi - Sheet-fed & Heat-set: >400 lpi
- **High print fidelity even at 1200 dpi CTP resolution!**
- **Smooth flat tints** (without interference)
- Excellent **repeatability** of print jobs without color deviations
- Ability to print **spot colors in CMYK process colors** (Expanded Color Gamut)

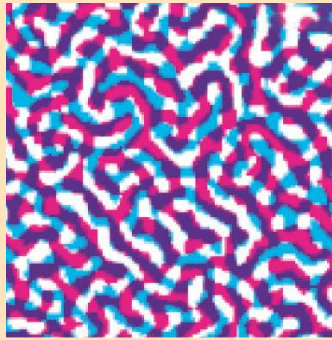
Who benefits from DMS?

Weboffset (Heat-Set) • Newspaper (Cold-Set) • Metalprint • Commercial sheetfed • Packaging Printing

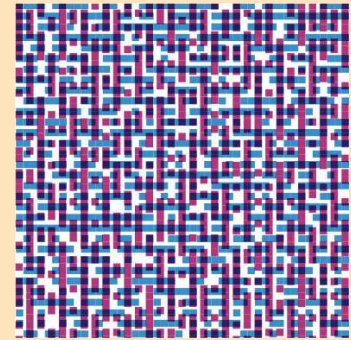
How does the structure of DMS looks like?



AM - Uniform overprinting



FM - Uneven overprinting



DMS - Uniform overprinting

How does DMS connect to existing Workflow?

Workflow



Export print-ready forms as separated 8-bit contone TIFFs or PDFs.

Auraia DMS



Screening with digitally modulated screening. Export of 1-bit TIFFs for printing plate exposure.

CTP



CTP - Excellent print quality at 1200 dpi at double the speed. Or with the previous resolution.

How can I test DMS?

1. We provide you with a TVI wedge rasterized with DMS.

The PDF can be placed in a production order for the selected printing standard.

Format: 4 x 200 mm or even smaller!

2. You send us a few printed copies.

We measure the prints and create a compensation curve.

3. We rasterize a print job with this curve. You receive the 1-bit TIFFs for the printing plate exposure.

4. After this print, we agree on a time-defined production test.

For this purpose, we provide you with a fully configured PC (WIN 11)

or you provide a VM with 32 GB RAM and at least a 3.0 GHz CPU.

5. The aim of the production test is to confirm the aforementioned advantages in your production.

What do I need for DMS?

Banding-free thermal CTP is required to use **DMS**. Your current workflow remains **completely unchanged!** Depending on your choice, your workflow exports **PDFs** or separated **8-bit contone TIFFs** without recalculation!

Hardware recommendation:

- CPU Intel i9 or AMD M5 (≥ 4.5 GHz) | 32 GB RAM
- SSD 1 TB or a correspondingly powerful virtual machine
- Operating system: Windows 11 or WIN Server

ABOUT US

We specialize in Digitally Modulated Screening (**DMS**) which provides **unparalleled screening technologies** for Offset printing (**Auraia DMS**) and Flexographic printing (**Bellissima DMS**).

Our print solutions help customers **save time and money** during all stages of the printing process while also **improving the final printed image quality**.



Hamillroad Software Ltd.

Founded in SA in 1999 • Expanded into UK 2002 • Established US presence in 2018
HQ in Cambridge, UK • Software used worldwide • Supplier of choice to the US heat-set market

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CASE STUDIES



Auraia DMS – New Quality in Coldset

Dear colleagues, associates and partners:

The newspaper/coldset printing project « **HANZA MEDIA** » (Zagreb, Croatia) proudly presents: **new quality in coldset with Digitally Modulated Screening**“ has been successfully completed. The results are surprisingly good, as you will see for yourself by receiving the printed samples. I would like to thank **Hamillroad Software** for the vision, idea and realization, **Mr. Ivo Pervan** for providing excellent photos and all the other participants.

The newspaper has been presented at **DRUPA 2024** in Dusseldorf by **MANROLAND GOSS web systems**.

With this project, we've opened up space for **high-quality products in coldset**.

Our newspaper printing house as part of **HANZA MEDIA**, has achieved the expansion of the domain of services and positioning on the market as a **high-quality and innovative coldset printing house**.

DMS is a game changer for us and fully integrated into **Newsday**.



Best regards
mr.sc. Ante Tomaš, Direktor



Auraia DMS – Heatset: Quad, USA

Quad made the strategic decision to designate **Auraia DMS** as their **preferred screening technology**, replacing both the AM and FM screening technologies previously used.

Then, after years of consistent performance, Quad extended the partnership with **Hamillroad Software**, signifying the continued trust and confidence in the capabilities of Auraia DMS.

Dylan Blohm, Quad's Senior Vice President of Manufacturing, said:

“We are a company that continuously strives for excellence and Auraia DMS has given us the best attributes of both traditional AM and FM stochastic screening while eliminating the negative effects of each. Accordingly, we are able to deliver the very best in lithographic print quality for our clients.”



Dylan Blohm - Quad
Snr VP Manufacturing

Further case studies available on request