

Auraia Screening Data Sheet

Auraia Screening, so named after the Greek word for 'beautiful' ('ὠραῖος'), is Hamillroad's second generation "Digitally Modulated" or "DM" Screening ("DMS"). Auraia DM Screening perfects stochastic screening as it not only achieves the high level of image detail long associated with FM stochastic screening, but also produces extremely smooth flat tints that are as smooth as, if not smoother than conventional AM screening.



Taking advantage of the immense computing power now available, DM Screening is so named because it digitally modulates each and every pixel it produces, precisely controlling not only the dots in each separation, but also between the separations so as to completely eliminate noise. It does this through the use of a "stochastic rosette", which interleaves the screens in all the separations. By doing so, it eliminates noise (and moiré). The "stochastic rosette" also maximises the amount of ink-on-paper and minimises the amount of ink-on-ink, which expands the available color gamut whilst eliminating color shifts on mis-registration.

The screening carefully analyses each pixel it produces to ensure that no dot is too small to plate or print, no 'non-dot' is too small to fill-in and no dot or 'non-dot' is too large so as to be visible. Dots are created in a carefully controlled manner, to ensure detail is placed exactly where it is needed, vignettes are smooth and flat tints are, well 'flat'. It cleverly modulates each pixel based on a deep understanding of laser optics, plate technology, printing press behaviour and ink flow to ensure that dot gain is eliminated, resulting in the removal of patterning artefacts and graininess.

The result of this is a quality of print, especially on violet devices that was previously unachievable.

Based on years of research and experience, the patented technology represents a fundamental change in the expectation a printer should have on the quality of print that is achievable. No longer are printers restricted by issues with moiré, mis-registration, rosette drift, color shifts, banding, dot gain, dot loss, shadow loss, etc... but they are free to do what they do best - print 'beautiful' pages.

Highlights

- High quality prints equivalent to 400-500 lpi
- Moire free - both screening and content
- Hilite dots to 0.01% and shadow dots to 99.99%
- Extremely smooth vignettes and flat tints
- Works on violet, UV and thermal systems
- Ink savings of 12-18% (on top of any GCR)
- Large minimum dot size of 15-30 microns
- Easy to plate and print on press
- Retains input image detail of 600-800 dpi
- Fully optimised 64-bit version for HMR-10/11

Features and Benefits

Print Quality

At the heart of the Auraia DM Screening engine are a number of breakthroughs in technology which eliminate the issues of dot gain & random placement of dots and the problems that result from that.

The carefully controlled dots produce prints equivalent to a traditional 400-500 lpi screen at 2400 / 2540 dpi, with incredible detail throughout an image, as well as hilite & shadow detail rarely seen before. In addition though, it's easy to plate and print.

Ease of use

Auraia Screening is available as a plugin for the popular Harlequin RIP; versions 8.3, 9, 10 and 11 are supported, both Mac and PC, which provides genuine 16 bit screening offering an incredible 50,000+ levels of gray per color.

Installation is easy and is performed by simply printing a PostScript file and rebooting the RIP, as is activating the screening (which is linked to the RIP's dongle). The screen is then selected from the Harlequin RIP's 'Separation Manager' 'Edit Style' just like any other screen.

Plate calibration

Plate calibration should be performed as usual, although we recommend using an 'FM' mode on a plate reader if available. However, since the gain on an uncalibrated plate and press is not far off linear (due to the unique Dot Gain Reduction technology), it is quite feasible to just calibrate the press using a spectro-photometer if the plate is not calibrated.

Press calibration

Press calibration is also required, even if calibrating the plates, as the ink savings inherent in the screening are produced as a result of the small dots that are used and these will produce different amounts of gain on press compared to conventional screening.

Specification

Tested / Supported Devices

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|----------------------------------|------------------------|
| Agfa Advantage / N | 1200 / 1270 dpi |
| Agfa Polaris | 1200 / 1270 dpi |
| Agfa Acento | 2400 dpi |
| Agfa Avalon | 2400 dpi |
| Agfa Xcalibur | 2400 dpi |
| Basysprint (710S, 741 and 851-F) | 1500 dpi |
| Creo Trendsetter News | 1200 / 1270 dpi |
| Creo Trendsetter | 2400 dpi |
| Dotline | 1200 / 1270 dpi |
| ECRM News / Newsmatic / Newsmax | 1200 / 1270 dpi |
| ECRM Nautilus | 2400 or 2540 dpi |
| EscherGrad Cobalt | 2540 dpi |
| FFEI Alinte 8 | 2400 or 2540 dpi |
| FFEI Luxel | 2400 or 2540 dpi |
| Heidelberg Suprasetter | 2540 dpi |
| Heidelberg Topsetter | 2400 dpi |
| Highwater Cobra | 2540 dpi |
| Highwater Python | 2540 dpi |
| Kodak Trendsetter News | 1200 / 1270 dpi |
| Kodak Generation IV News | 1200 / 1270 dpi |
| Kodak Achieve | 2400 dpi |
| Kodak Lotem | 2400 dpi |
| Kodak Magnus | 2400 dpi |
| Kodak Trendsetter | 2400 dpi |
| Krause LSJet | 1016 / 1200 / 1270 dpi |
| Screen PTR-4x00 / 6x00 / 8x00 | 2400 dpi |
| Screen Ultima | 2400 dpi |

Other CtP devices will be tested / qualified over the coming months and added to this list.

RIPs Supported

- Harlequin RIP version 8.3 (Plus Server RIP)
- Harlequin RIP version 9 (Plus Server RIP)
- Harlequin RIP version 10 (Multi-RIP, both 32-bit and 64-bit)
- Harlequin RIP version 11 (Multi-RIP, 64-bit only)

Operating Systems Supported:

- Windows XP / Vista / 7 / 8 / 8.1
- Max OSX (Intel) 10.2 - 10.8

