Stochastic Screening

Fusion RIP Option

HARLEQUIN DISPERSED SCREENING (HDS)

HDS is Harlequin's Patent-Pending stochastic, or 'FM' screening technology. HDS creates reproductions with increased image detail over conventional screening methods and offers complete freedom from both cross screen and object moirés.

HDS is ideal for reproducing subjects for which object moiré is a problem (such as scenes with fabric, venetian blinds, or picket fences) and for printing with more than four process colors. It also offers increased image detail and fewer press registration problems over conventional screens.

Purely random screening methods cluster into odd sized and shaped structures. This can cause the 'noisy' or 'grainy' results that are most apparent in smooth areas of contone pictures, flat tints, and vignettes. Also, since at any given percent dot value, purely stochastic screens contain structures of many different sizes, control of printing conditions becomes difficult, and printing using these screens can be unstable.

HDS offers a random approach that dramatically improves the printability, stability, quality, and predictability within the printing process. Key points include:

Compare

HDS uses a random component on top of a very fine and distributed structure to produce a screen that has the benefits of both purely stochastic, or random screens, and conventional screens.

Individual spots do not randomly 'cluster' into structures with odd sizes and shapes thus reducing the graininess over other screening methods.

Though there is no regular and periodic structure, as with a conventional halftone screen, there is a certain 'regularity' of form and scale.

Different coarseness and device resolution combinations can be specified to support a wide variety of output device technologies.
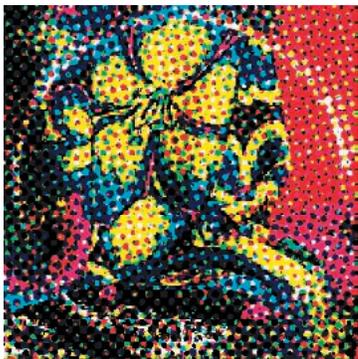
Conventional Halftone Screening
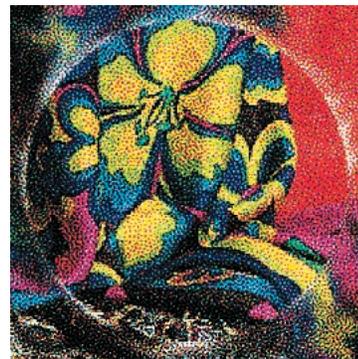
Stochastic Dispersed Screening

If you examine HDS tints closely you will notice that, though no conventional halftone pattern exists, at any given level of tone the tints have a certain 'homogeneous' structure, and that this structure changes smoothly up and down the gray scale.

FUSION S Y S T E M S international

STOCHASTIC (FREQUENCY MODULATED) SCREENING

Plates produced using HDS are reproduced easily using a wide variety of imagesetting equipment and printing processes. Exceptional results have been obtained with HDS printing on newsprint with web press equipment, on high-quality coated paper with commercial sheet fed presses, and using direct output methods such as ink-jet and laser printers.

Five versions of HDS are used for different applications. Some enlarged tint blocks of HDS Super Fine, Fine, Medium, Coarse and Super Coarse are shown below.

SUPER FINE

FINE

MEDIUM

COURSE

SUPER COURSE
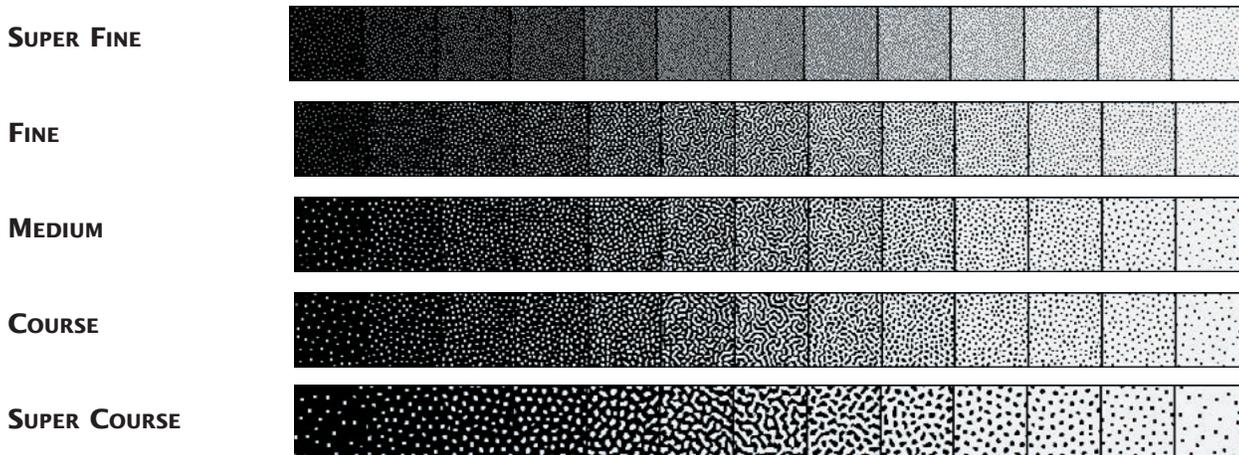
Frequency Modulated Screens do not have the same lines per inch (lpi) characteristic as conventional screening. As a general rule of thumb, working at 1524 dots per inch (dpi) with a relatively small dot size (less than 20 um), then HDS Coarse has a dot gain on plate only slightly higher than a conventional 150 lpi screen in the midtones, and holds up better than the conventional screen in the highlights and the shadows.

Medium FM Screening has a similar correspondence to a 200 lpi screen at 1524 dpi. Finally, Fine FM Screening has characteristics similar to 300 lpi screen platesetter resolutions. The integration of Frequency Modulated Screens means better image detail and freedom from moiré.   It is a good option for many applications.

For more information, please contact us at: info@fusionsystems.com

FUSION
SYSTEMS
international

12021 NE Airport Way Portland, OR 97220
(503) 261-7395   (503) 261-7383

Visit Us: http://www.fusionsystems.com