

# Adobe Brilliant™ Screens



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Adobe Brilliant Screens make it possible to generate screens that meet the highest quality standards of today's market using existing equipment, procedures and know-how. It represents the latest advancement in Frequency Modulated (FM) screening – the next step in the evolution of “high-end” screening technology. In fact, the photographs in this brochure were all produced with Adobe Brilliant Screens on an image-setter containing an Adobe™ PostScript™ Level 2 interpreter.

## **Conventional Screening Versus FM Screening**

With conventional screening methods (fig. 1), gray tones are represented by building a halftone dot using device pixels within a halftone cell. To obtain darker grays, more pixels are turned on. The halftone cells make up a rectangular grid. To avoid moiré patterns, care must be taken to generate different screens with precise grid angles and frequencies for each printing color. And these angles and frequencies often are sensitive to variations in press registration.

FM screening, though, uses smaller dots that are not restricted to a fixed grid pattern. By varying the number of dots in a given area, any desired gray level (fig. 2) can be generated. And because the dots are significantly smaller than conventional halftone cells, FM screening can represent more detail. This feature enables users of some applications to decrease image scanning resolution, thereby decreasing file size and transfer time. In addition, FM screening methods employ randomness or “noise

generation” in determining where to place pixels. This produces smoother tone transitions and eliminates patterns that could lead to a moiré effect. FM screens tend to be less sensitive to registration variations on the press. For the same reasons, FM screening also can enhance the quality of output from desktop printers.

FM screening could dramatically change the process of proof generation. In the past, users have worked to achieve good-looking rosettes, the least objectionable moiré pattern. With FM screening, however, there is no discernible dot structure. This fact opens proofing up to a number of additional output device technologies, including continuous tone. Ultimately, the goal for users will become matching color and detail fidelity between the proof and press.





### FM Screening With Adobe Brilliant Screens

Adobe Brilliant Screens are the “next step” and advance FM screening technology still further. Recognizing how difficult it is to hold small dots through platemaking and on press, Adobe has provided its OEM customers with the tools for controlling dot size via pixel clusters. Compensation for dot gain occurs at each desired gray level. As a result, Adobe Brilliant Screens can accommodate standard plates, normal exposures, old blankets and SWOP settings.

Adobe Brilliant Screens work with properly licensed RIPs containing Adobe PostScript Level 2 interpreters, including those already installed. Performance is equivalent to Adobe Accurate Screens™ software and can be accelerated using Adobe’s PixelBurst™ coprocessor.

Adobe Brilliant Screens work with the software you already use. You can mix images with Adobe Brilliant Screens and conventional screening on the same page. You can access Adobe Brilliant Screens through user interfaces in the leading desktop publishing packages. Adobe Brilliant Screens are available from Adobe’s OEM customers who produce imagesetters, printers, digital proofers, platemakers and presses.

#### You Can Take the “Next Step”

To learn more about Adobe Brilliant Screens and devices incorporating this breakthrough technology, contact any participating Adobe PostScript OEM.

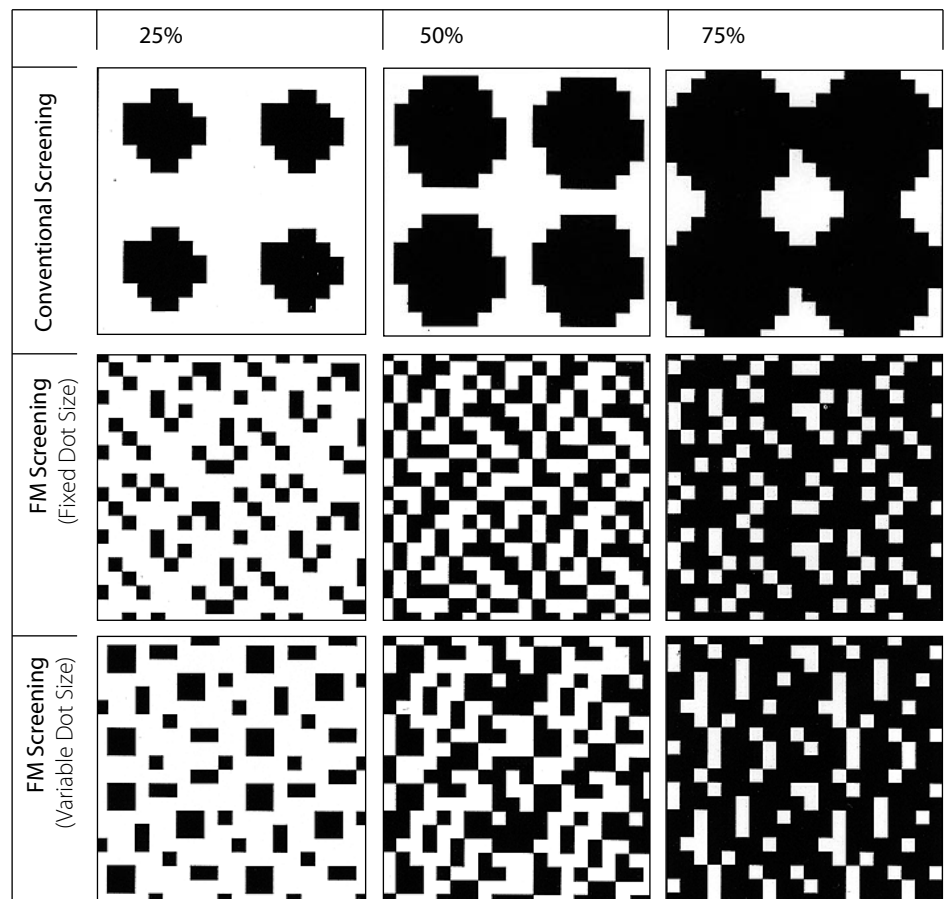


Fig 1. This diagram shows how flat tints can be represented using conventional and FM screening (fixed and variable dot size) methods. Adobe Brilliant Screens use a fixed dot size for FM screening.



Fig 2. Adobe Brilliant Screens produce fine grayscale ramps. The dot structure at different gray levels is significantly different from conventional screens.



Adobe Brilliant Screens deliver detail with ample dynamic range to bring out the highlights and shadows of high-contrast images.

With the ability to depict detail at relatively low resolutions, Adobe Brilliant Screens are ideal for reproducing subtle textures, as in the image on the front cover of this brochure. All the screening in this brochure, rendered at 1,270 dots per inch (dpi) (500 dots per centimeter), has a quality typically available at 2,400 or 3,600 dpi. When viewed with a loupe, the image has a continuous-tone appearance.

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