

# Stochastic Screening

The October 1996 issue of P-G made mention of a set of New Zealand definitive stamps (item 20, -page 52) that utilised a: 'new micro-dot screen printing technique which is said to provide finer detail and greater reproduction clarity.'

The stamps were printed by Sprintpak (a wholly owned subsidiary company of Australia Post), who have embraced this technology and, as far as I know, are the only stamp security printer in the world that is using this stochastic screening, for this is the technical name for the micro-dot screen -also known as FM screening. (Update: Now also used in Canada - see below, plus enlarged nose to left.)



Update: The stochastic screening process is now also used in Canada - see recent set alongside, plus the enlarged nose to left.

Without getting too detailed about the methods used in the pre-press department to print stamps, or indeed other colour print items that screen the artwork, the traditional method is to utilise uniform sized half-tone dots, screen ruling and dot size. Each colour screen is then placed at a different angle to allow overlapping at appropriate points to reproduce the tonal values required.

The screens produce the myriad of tiny rosettes visible under a magnifying glass when well registered. If the screening is not accurate, you will get moiré effects that resembles silk and which is distracting to the eye. This is probably most often seen when a printer re-screens an image that has previously been screened, causing the screen angles to clash.

With stochastic screening, there are random dots of varying sizes eliminating any risk of moiré or rainbow effects. It is, effectively, an electronic rendition of screenless printing and the detail obtained is superb and well suited to a tiny image such as a postage stamp.

We are sure to see more use made of this technique over the coming years by other stamp printers. If it is also used with the relatively new six colour process printing (instead of the CMYK – Cyan, Magenta, Yellow and Black, or Key - four colour printing process that we are used to), it will add even greater clarity and vibrancy of image to the stamps that we so enjoy collecting and studying. It may seem a small development to those not in the print industry, but Debra De La Haye, Stamp Product Manager of NZPost, regards it as 'a radical alternative to conventional screening'.